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MONTHLY REPORT

OF THE

DEPARTMENT OF AGRICULTURE

FOR

OCTOBER, 1873.

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MONTHLY REPORT.

DEPARTMENT OF AGRICULTURE,
Statistical Division, October 18, 1873.

SIR: I present herewith for publication a report of the October returns, showing the condition of growing crops; some facts concerning the comparative yield of cereals in various countries in connection with the causes of declining or improving rates of production; a statement illustrative of the condition of agriculture in Persia; tables giving the market prices of certain farm products in this country; and a variety of matter from the entomoligist, the chemist, and the botanist of the Department.

J. R. DODGE,
Statistician.

Hon. FREDERICK WATTS.

REPORT OF CROP RETURNS.

CORN.

The present year, like that of 1869, which produced the crop returned in the census of 1870, is one of low production, as regards maize, our main cereal, both in quantity and quality; while the quantity of wheat will be rather more than an average, in view of its increased area, though not equal to the great wheat-crop of 1869. This result is far better for farmers and consumers than a deficient yield of wheat with a large crop of corn, as the surplus of the former above the actual wants of bread-consumers is quite small; but two hundred millions of bushels of corn can always be spared from a full crop without any other effect than an enhancement of prices to a figure representing more fairly the cost of production. The flexibility of the corn consumption is unexampled in the case of any other crop, other feeding-material, much of which in years of abundance is wasted or improperly utilized, being substituted for maize whenever a deficiency in that crop is realized. There is always enough of corn-fodder wasted to feed an immense number of cattle; and in certain sections the farm-stock is half subsisted upon straw, notwithstanding the deliberate burning of nine-tenths of it to get it out of the way. The resources of fall and winter pasturage are also utilized. While these materials supply the place of hay rather than corn, and serve to winter rather than fatten farm-stock, they do render possible a less lavish use of corn than obtains in seasons when it becomes a drug at 20 cents per bushel.

Frosts have been early this year. Several New York correspondents refer to those of the 14th and 15th of September; the dates most fre-

quently mentioned are, in Pennsylvania, September 14, 15, 20, and 22; in Ohio, 20 and 21, but no injuries reported within a few miles of Lake Erie; in Michigan, 21; Indiana, 14, 15, 19, 20; Illinois, 13, (McHenry,) 14, 19, 20, 25, (Cumberland;) Wisconsin, 13, 14; Iowa, 10, (Plymouth,) 13, 14, 19; Kansas, 12, 22. These frosts were not generally of great severity, but sufficient to prevent the thorough ripening of the corn. The "average condition" of the crop throughout the country, as calculated with reference to the amount of production in each county, from the returns of county averages, is 84.

In October of last year the report read: "The average for all the States is 108. This promises one of the largest corn-crops ever produced." These figures indicate a depreciation this year, as compared with last, of 22 per cent., while the assumed reduction of 4 per cent. in area would enlarge this rate of depreciation. In round numbers the reduction in indicated product is 250,000,000 bushels, with the possibility that the final returns of November, which are direct estimates of the quantity as compared with the last crop, may still further reduce these figures.

The only States returning average condition are Georgia, Florida, Arkansas, California, and Oregon. The other averages are as follows: Maine, 85; New Hampshire, 99; Vermont, 97; Massachusetts, 97; Connecticut, 89; New York, 89; New Jersey, 99; Pennsylvania, 93; Delaware, 76; Maryland, 91; Virginia, 99; North Carolina, 95; South Carolina, 89; Alabama, 92; Mississippi, 86; Louisiana, 92; Texas, 78; Tennessee, 91; West Virginia, 96; Kentucky, 94; Ohio, 88; Michigan, 88; Indiana, 84; Illinois, 67; Wisconsin, 88; Minnesota, 97; Iowa, 81; Missouri, 76; Kansas, 66; Nebraska, 77.

MAINE.—*Piscataquis:* Far below last year's crops. *Oxford:* Very backward; killed by frost. *Waldo:* Yield very light, quality fair. *Androscoggin:* Backward; not over three-fourths of a crop.

VERMONT.—*Franklin:* Good condition; good yield. *Orleans:* Caught by frost early in September.

CONNECTICUT.—*New London:* Shortened by drought, especially late planted.

NEW YORK.—*Steuben:* Killed by frost September 15. *Genesee:* Improved. *Franklin:* Killing frosts September 14. *Washington:* Heavy frosts in the first half of September injured the crops materially. *Rockland:* White frost September 14, but not much damage. *Delaware:* Considerably damaged by frost. *Sullivan:* Injured by frost September 14. *Ontario:* Some pieces injured by frost. *Seneca:* Fair.

NEW JERSEY.—*Cumberland:* If frost delays the crop will be extra. *Worcester:* Considerable corn yet liable to be injured by frost. *Burlington:* Injured by hail in some places; if frost holds off the crop will be full average. *Essex:* Frost injured fodder to some extent.

PENNSYLVANIA.—*Clinton:* A large percentage of the crop delayed by bad seed, and threatened by the early frosts. *York:* Weather remarkably fine for corn. *Westmoreland:* Severe frost September 22; there will be much soft corn. *Warren:* Late plantings injured by frost September 15. *Indiana:* One-third of the crop will be soft. *Lawrence:* Hill crops injured by frost; first heavy frost September 15. *Armstrong:* Heavy frosts, September 28, set farmers to cutting corn not yet ripe. In some places corn was frost-killed. *Butler:* Early frosts September 14 to 22 injured the crop. *Crawford:* Frosts of September not severe, yet they damaged corn somewhat. *Erie:* Bad start, and never recovered; one-fourth short. *Washington:* Fodder damaged by frosts; there will be much soft corn. *Bucks:* Yield very disappointing; high winds of September broke down the stalks.

MARYLAND.—*Saint Mary's:* Greatly improved by late rains, but injured by cutworms. *Baltimore:* Good season and good cultivation made a good crop. *Howard:* Greatly improved by late rains and fair weather.

VIRGINIA.—*Powhattan:* Splendid condition. *Washington:* Rather light. *Spottsylvania:* Very fine; late plantings about ripe. *Pulaski:* Short, but better than was expected. *Matthews:* Shorter than for many years; not near enough for home consumption. *King George:* Excellent, except in the southeastern part of the county, where it was shortened by drought. *Rappahannock:* Good, but late; would be greatly injured by frost within two weeks. *Pittsylvania:* Rain came four weeks too late for corn. *Page:* Early Darling sugar-corn from the Department has done well; excellent for early table use. *Lunenburgh:* September very favorable for corn. *Alexandria:*

Sowed corn becoming a favorite crop and very profitable, taking the place of hay, which commands $30 per ton. *King William:* Shortened by drought more than other crops. *Nelson:* Wonderfully brought out by the rains of August; crop fine where it has been well cultivated. *Halifax:* Rains too late to save corn. *James City:* Largely above average in the lower parts of the county, where there were heavy rains; elsewhere it is inferior. *Prince George:* Very poor; did not recover from the July drought. *Orange:* Best corn-crop since 1865. *Chesterfield:* Frost September 16. *Montgomery:* Suffered from drought in half the county, making about half a crop; in the other half the weather was seasonable and the yield good. *King and Queen:* Late plantings greatly benefited by rains. *Highland:* Injured by grub-worms. *Northampton:* Shortened by drought. *Southampton:* Materially injured by rains. *Princess Anne:* Corn-fodder below average.

NORTH CAROLINA.—*Gaston:* A large yield, except in overflowed bottoms. *Sampson:* Partial failure through excessive rains. *Madison:* Better than was expected, but not so good as last year; acreage increased 10 per cent. *Currituck:* Cut off by rains. *Alamance:* Average in quantity and quality. *Martin:* Fair average where well tended. *Person:* Very much injured by drought. *Perquimans:* Twenty to twenty-five per cent. short of last year's crop. *Bladen:* Looks well. *Yadkin:* Not so good as was expected, but nearly average. *Caldwell:* Summer too wet for corn. *Cumberland:* Rains have interfered with the saving of fodder. *Anson:* Fair. *Greene:* Only three-fourths average; very discouraging to farmers.

SOUTH CAROLINA.—*Chester:* On bottoms 50 per cent. less than last year; late upland plantings good. *Greenville:* Upland corn bears two ears to the stalk; usual crop from nothing to a nubbin, or one good ear per stalk. *Clarendon:* Partial failure in some localities: good in others. *Newberry:* Light crop. *Orangeburgh:* Pennsylvania Yellow ripens early, but the ears are small. *Lexington:* Both late and early corn injured by rains. *Union:* Fair.

GEORGIA.—*Hart:* Fine crop; good season. *Gwinnett:* Good; Cooley White from the Department a success. *Jefferson:* Crop average. *Calhoun:* Good. *Heard:* Extra good. *Wilkinson:* Turning out well. *Brooks:* Great injury from storm, September 19.

FLORIDA.—*Suwannee:* White Cooley excellent; corn crop the best in ten years. *Jackson:* Size and weight of grain above average. *Orange:* Fair.

ALABAMA.—*Greene:* Poor; below expectation. *Clarke:* Better than last year, but shortened by excessive rains and grass. *Tuscaloosa:* Good. *Geneva:* Exceedingly good. *Winston:* Better than was expected. *Sanford:* A failure on bottom-land; too much rain. *Randolph:* Generally good. *Crenshaw:* Equal to last year.

MISSISSIPPI.—*Tishemingo:* Better than usual, except on bottoms. *Lee:* Three-fourths of a crop. *Grenada:* Short crop. *Pike:* Generally good. *Attala:* Short crop. *Holmes:* Crop fair, but not so heavy as usual.

LOUISIANA.—*Terre Bonne:* A miserable failure. *Rapides:* Will not suffice for bread till January. *Bossier:* An unusual amount of rotten corn.

TEXAS.—*Navarro:* Weather favorable for gathering the crop. *Cooke:* Almost a failure; no rain worth mentioning since June 9. *Dallas:* Below average. *Fayette:* Light, but in good condition. *Titus:* Over average, but not so good as was expected. *Red River:* Poor. *Upshur:* Shortest crop in thirteen years. *Medina:* Damaged by floods. *San Saba:* Light and inferior. *Uvalde:* Damaged 25 per cent. by bud-worms.

ARKANSAS.—*Sebastian:* Shortened a third by drought. *Perry:* Corn-crop supplemented by a large mast-crop. *Baxter:* Shortened by drought. *Arkansas:* Good crop. *Scott:* Injured by dry-rot and worms. *Ashley:* Short.

TENNESSEE.—*Lawrence:* Greatly shortened by drought; corn 80 cents and corn-meal $1 per bushel. *Grundy:* Suffered from cut-worms. *Fayette:* Half a crop. *Rhea:* Not filling out very well. *Jackson:* White, Cooley, and Yellow Field-corn are good varieties for this region. *Trousdale:* Greatly injured by drought. *Bradley:* Injured by grasshoppers. *Dyer:* Damaged by drought; no rain for two months. *Monroe:* Full average. *Smith:* Fully matured and in good condition in half the county; indifferent in the other half. *Carter:* Too wet for corn. *Jefferson:* Condition, full average, quantity, above. *Blount:* Moderately good; injured by drought. *Obion:* Spring too wet for corn. *Macon:* Brought out finely by late rains. *Haywood:* Shortened by drought.

WEST VIRGINIA.—*Fayette:* Not as good as expected; good rains all summer. *Mercer:* Great failure on account of grub-worms. *Grant:* Vast quantities of corn frost-bitten. *Braxton:* Mostly cut, and of good quality; supplemented for hog-feed by a large acorn-crop. *Berkeley:* Much soft corn, resulting from worms whose ravages required frequent replantings.

KENTUCKY.—*Jefferson:* Season fine; crop unusually good. *Shelby:* Condition equal to last year; yield, 15 per cent. greater. *Daviess:* Will yield a million bushels. *Metcalfe:* Not so good as last year; unfavorable season and storms have injuriously affected it. *Spencer:* Disappointing the promise of August. *Russell:* Sound, but not over a half crop. *Laurel:* Beyond expectation; short, but good. *McLean:* Shortened 10 per cent. by drought.

OHIO.—*Stark:* Later than usual and already damaged by frosts materially. *Coshoc-*

ton: Slightly injured by frost September 20. *Crawford:* Late, and already frost-bitten. *Medina:* Below average; frosted in low grounds. *Erie:* Frost did considerable damage at points six or eight miles from Lake Erie, but along the lake there has been none. *Huron:* Hurt by frost considerably September 20 and 21; fodder will be scarce. *Auglaize:* Early frost injured corn and fodder. *Geauga:* Large growth of stalk but light ears. *Mahoning:* Injured by frost September 20. *Adams:* Weather seasonable for corn since June; good crops in spite of chinch-bugs in some places. *Delaware:* Early plantings a good average crop; late plantings intercepted by frost and will be about half a crop. *Defiance:* First killing frosts September 20 and 21; some damage. *Athens:* Average; would have been greater but for the July flood.

MICHIGAN.—*Lenawee:* First frost September 20. *Wayne:* Upland crops shortened by drought. *Branch:* Not over two-thirds of an average. *Ottawa:* Heavy growth of fodder, but not well cared or grained; frosts nearly every night for two weeks; too dry for corn. *Shiawassee:* Heavy frost September 21; grain less injured than fodder.

INDIANA.—*Huntington:* Considerable corn frosted; first frost September 9, ten days earlier than last year. *Madison:* Injured by heavy frost September 19 and 20. *Ohio:* Injured by frost September 15, 22, and 23. *Steuben:* A little over a half crop. *Floyd:* Crops made before the drought; never better. *Brown:* Early plantings very good; late a little frosted September 14 and 15. *Dearborn:* Matured rapidly; out of danger. *Hamilton:* A great deal of corn will be frosted. *Cass:* Poorest crop for many years; three-fourths more or less injured by frost. *Howard:* Damaged by frost September 14; a large portion will be unmerchantable. *Johnson:* Frost causing corn to shrink and become loose on the cob. *Marion:* Seriously injured by frost. *Martin:* Late corn damaged by drought. *Montgomery:* Sharp frosts; heavy mast in the woods. *Noble:* Considerable soft corn. *Shelby:* Badly damaged by frost. *Warren:* Hurt by white frost September 13. *Fulton:* Frosted. *Decatur:* Well matured and sound on ditched lands; on others a failure through wet season. *Scott:* Injured by chinches. *Hancock:* Injured by wet and early frost. *Franklin:* Ripening well.

ILLINOIS.—*De Kalb:* Corn frost-killed in some localities. *Jersey:* Late corn injured by frost. *Franklin:* Early planted never better; the whole crop in August promised to excel any former crop, but dry weather and chinch-bugs have ruined late plantings. *Macon:* Mostly out of danger though some late plantings have been frosted. *Winnebago:* Late corn killed by severe frost during the first week in September. *Bureau:* Many pieces poor and soft; others very good. *Clinton:* Much injured by drought and chinch-bugs. *Edwards:* Fine in spite of chinch-bugs. *Vermilion:* Light, and badly injured by frost; but little more than half of last year's yield, and half of that unmerchantable. *Sangamon:* Late plantings injured by frost. *Washington:* Late corn injured by drought and chinch-bugs. *Carroll:* Killing frost September 14. *Champaign:* Late plantings entirely failed; earlier plantings safe. *Cumberland:* Largely injured by frost September 25. *Kankakee:* Half spoiled by late planting. *Massac:* Injured by drought. *Moultrie:* Reduced to a fourth of a crop by drought and early frost. *Pope:* Injured by chinches. *Putnam:* Blades extensively killed by frost September 14, 19, and 20. *Ogle:* Injured by frost September 14. *Piatt:* Late corn frosted. *McHenry:* First severe frost September 13; fodder destroyed and grain injured. *Mason:* Late corn badly frosted. *McLean:* Late corn injured by frost on the 13th September and killed on the 20. *Knox:* Late plantings mostly a failure. *Montgomery:* Fall very favorable to corn, which is late.

WISCONSIN.—*Marathon:* Much damage by heavy frosts. *Dunn:* Heavy frosts September 13 and 14. *Clark:* Crop saved before frost; raised only for home consumption. *Waukesha:* Generally ripe and in the shock before frost. *Douglas:* Injured by frost. *Green Lake:* Suffered from August drought. *Richland:* Heavy frost September 14. *Green:* Late plantings badly frosted. *Vernon:* Injured by drought.

MINNESOTA.—*Ramsey:* Good where well cultivated. *Mower:* Ripened before the September frosts; good condition. *Nicollet:* Small crop; wet spring and poor seed. *Red Wood:* Considerably frosted. *Blue Earth:* Heavy frosts, but corn out of their way.

IOWA.—*Montgomery:* Unripe corn killed by frost September 19. *Marion:* Injured by drought. *Sioux:* Damaged by grasshoppers. *Tama:* Heavy frosts. *Cass:* Shortened by drought nearly 40 per cent. *Clinton:* Heavy frost September 19. *Allamakee:* Frost-bitten September 13 and 14. *Calhoun:* Good, though somewhat late. *Chickasaw:* Injured by drought on sandy soils, especially along river-bottoms. *Harrison:* Late planted and injured by drought and grasshoppers. *Mahaska:* Hardening finely, but will be short. *Union:* Shortened by drought from June. *Johnson:* Shortened by drought; almost a failure on clay land; fair crops in some localities. *Muscatine:* Early plantings good; late plantings poor. *Pocahontas:* Nearly as good as common. *Jefferson:* Damaged by drought. *Carroll:* Pennsylvania corn did well. *Grundy:* Light crop, but ripened well; September frosts did little damage. *Hardin:* Considerably frosted. *Scott:* Shortened by drought. *Plymouth:* Heavy frost September 10. *Mills:* First heavy frost September 19. *Mitchell:* Excellent. *Monona:* Probably not over a half crop.

MISSOURI.—*Benton:* Shortened by drought continuing from July 15; on prairie lands the crop will be of inferior quality. *Adair:* Better than was expected. *Polk:* Damaged by chinch-bugs and drought. *Clinton:* Shortened by drought; unripe corn frosted September 18. *Cole:* Reduced by drought to a half crop in many places. *De Kalb:* Half crop. *Mercer:* Good. *Pulaski:* Injured by drought and chinch-bugs. *Stone:* Not over a fourth of a crop. *Newton:* A little injured by drought and chinch-bugs. *Grundy:* Short 50 per cent. *Pettis:* Shortened by drought to a half crop. *Shelby:* Light, and poor through drought. *Linn:* Shortened by frost.

KANSAS.—*Labette:* Early plantings, which escaped the chinch-bugs, are fine; late plantings worthless. *Woodson:* Injured by heavy storms and much of it killed on the high lands by frost September 22. *Clay:* Greatly damaged by drought. *Montgomery:* Damaged by bugs. *Coffey:* About two-thirds of a crop. *Douglas:* Late plantings a failure. *Nemaha:* Half crop; a fourth of last year's crop on hand. *Smith:* Damaged by grasshoppers. *Reno:* Averaging from 50 to 60 bushels per acre. *Wilson:* Almost destroyed by chinches on the uplands; bottom crops escaped. *Wabunsee:* Cut down one-half by drought; only two or three showers since July 1. *Shawnee:* Frost September 12. *Atchison:* Frosts a month earlier than usual.

NEBRASKA.—*Madison:* Better than was expected. *Nemaha:* Decreased corn-crop has prevented many from fattening cattle. *Cass:* Not over a half crop.

OREGON.—*Clackamas:* Slightly injured by recent frosts.

COLORADO.—*Weld:* Killing frost September 28.

UTAH—*Iron:* Corn green and growing; no frost yet. *Kane:* Large crops; season propitious. *Tooele:* Improved by late rains.

IDAHO.—*Ada:* Pennsylvania corn the best variety here; that planted May 10 is well matured and a heavy crop.

NEW MEXICO.—*Taos:* Will be average if frost delays a month longer; otherwise it will be as light as wheat.

WHEAT.

The returns of September, averaged with reference to the production of each county, indicated nearly a full normal crop, the average depreciation being only 5 per cent. The returns of October are made in direct comparison with the crop of last year, involving, of course, the element of area as well as condition. The aggregate is an increase of about 4 per cent., which is equivalent to ten millions of bushels, making the promise of the crop about 260,000,000. This may be considered a good crop, as large as any harvested since 1869, but about 10 per cent. less than that unusual yield.

The great difference between the rates of yield in the several States in 1872 necessarily makes a wide range in the percentages in comparison with each State product. Minnesota is credited with an increase of 20 per cent.; Wisconsin with 18; Iowa, 12; Illinois, 6; Missouri, which had less than two-thirds of a crop last year, has made an increase of nearly 50 per cent., and Kansas has almost as large an increase over the poor crop of last year. Ohio's crop is placed at 2 per cent. above that of last year. Kentucky has 8 per cent. less than last year, and Indiana 12 per cent., and California 16 per cent. Of the other States which make considerable contributions to the aggregate, Pennsylvania has an increase of 34 per cent., which barely makes an average crop, and New York, with 5 per cent. increase, has still little more than two-thirds of a good crop. The crop of the South is less than that of last year.

Among the large wheat-producing counties of the western wheat belt, such as produce not less than half a million bushels in a good season, the following will serve to indicate the sections in which the present season has been propitious, or otherwise: In Ohio, Miami, Montgomery, Champaign, Highland, Franklin, Fairfield, Shelby, and Wayne show an increase; and Stark, Richland, Sandusky, Wyandot, and Holmes a decrease. In Michigan, Livingston, and Barry make an increase, and Cass, Clinton, Kalamazoo, Calhoun, Hillsdale, Jack-

son, Lenawee, Saint Joseph, and Washtenaw, a decrease; in Indiana, Randolph is reported at 130, while the range is from 75 to 90 in Carroll, Hamilton, Johnson, Madison, Montgomery, Shelby, and Warren; in Illinois, several of the heavily producing counties of the southwest, as Jersey, Macoupin, Montgomery and Adams, range from 75 to 95 in comparison with the previous crop, and in the northwest a marked appreciation is seen in Ogle, Carroll, Winnebago, and Stephenson. Several other prominent counties, among them Pike, Washington, and Clinton, show an increase. Sheboygan is the only half-million county in Wisconsin which reports a depreciation, while among those making gains ranging from 5 per cent. to 100 are Green Lake, Jefferson, Walworth, Dodge, La Crosse, Iowa, Green, Buffalo, La Fayette, Saint Croix, and Waukesha. A single one of these, Dodge, produces between two and three millions of bushels. All prominent counties reporting from Minnesota return 100 or more. Olmstead, which produced more than two millions of bushels in 1869, 105; Blue Earth, 100; Freeborn, Wabashaw, Fillmore, 110; Washington, 115; Mower, 125. In Iowa, the counties of Tama, Grundy, Marshall, and Scott return less than 100; Iowa, Clinton, Johnson, and Linn report the same as last year; Black Hawk, 125; Benton, 110, (these two counties producing between one and two millions each;) Chickasaw, 130; Delaware, 125; Floyd, 115; Allamakee, Hardin, and Jones, 105. Among the prominent counties in Missouri making a favorable comparison with last year are Cass, Gasconade, Lincoln, Perry, and Saline. Moniteau returns 75. Bourbon, Marshall, and Nemaha, in Kansas, and Cass, Otoe, and Gage, in Nebraska, make favorable comparison. In most of the wheat-producing counties of California a depreciation is indicated, as in Alameda, Contra Costa, Santa Clara, and Stanislaus.

The following extracts from correspondence will further illustrate local conditions:

MAINE.—*Oxford:* Pinched by drought; quality poor.

NEW HAMPSHIRE.—*Carroll:* Does not thrash out as well as was expected; grains shrunk through drought.

MASSACHUSETTS.—*Berkshire:* Winter-grain good; protected by snow in winter.

CONNECTICUT.—*New London:* Superior quality.

NEW YORK.—*Livingston:* Winter-wheat of first-rate quality. *Greene:* Less than 40 per cent. of a full crop. *Seneca:* About 70; quality good.

NEW JERSEY.—*Sussex:* Wheat-crop larger and of better quality than last year. *Cumberland:* Good. *Burlington:* Thrashing out satisfactorily; Fultz wheat has fulfilled the most sanguine anticipations. *Morris:* Very good; better than for many years. *Warren:* Good quality and unusual weight per bushel.

PENNSYLVANIA.—*Northampton:* Large crop of excellent quality; large increase over last year. *Chester:* Crop not sufficient for home consumption. *Mifflin:* Nearly double last year's crop. *Lebanon:* A quart of Tappahannock from the Department yielded 26½ quarts, perfectly clean and of the best quality.

MARYLAND.—*Baltimore:* Better than last year in quantity and quality; a good average. *Howard:* Better than last year's crop, which was good. *Cecil:* Wheat sown about October 1 did well; earlier sowed, injured by the fly, and later by freezing.

VIRGINIA.—*Pulaski:* Short crop; poor seed and unpropitious season; season fine for sowing, but unfavorable to breaking up fallow. *King George:* Injured by rain in shock and stack; more than usual fallow ground put in wheat. *Botetourt:* Falling short on thrashing; weather fine for seeding. *Stafford:* Much injured by rain; some of it coming to market in bad condition. *Orange:* Yielded badly and was injured in stack and shock. *Montgomery:* A signal failure; many farmers will not get back their seed. *Highland:* Largely frozen in winter. *Bath:* Fultz the best variety here.

NORTH CAROLINA.—*McDowell:* Lowland crops largely injured by high waters. *Forsyth:* Short, but good. *Perquimans:* Will soon cease to be grown. Yield, 4 bushels per acre.

SOUTH CAROLINA.—*Greenville:* Wheat from 2½ to 9 bushels per acre. *Union:* Poor; very little attention to it when cotton brings 18 cents per pound.

GEORGIA.—*Barbour:* Tappahannock a success. *Cobb:* Tappahannock has taken the first premium at all the State and county fairs.

TEXAS.—*Fannin:* A half bushel of Tappahannock produced 39½ bushels weighing 64 pounds each. *Titus:* Great improvement, both in quantity and quality. *Upshur:* Did well. *Ellis:* Twice as much wheat gathered as last year, but will be light in weight on account of rains during harvest. *Uvalde:* Damaged by grasshoppers.

ARKANSAS.—*Montgomery:* Injured by wet in the shock.

TENNESSEE.—*Jackson:* Half gallon of Tappahannock, broadcast, thrashed out 2 bushels of nice full grain; the same quantity of Fultz produced 3½ bushels. *Bedford:* But little over a half crop; quality inferior; affected by sweat and scab. *Sullivan:* Tappahannock taken by the fly; Fultz comparatively free from the ravages of the fly, and appears to be otherwise hardy and prolific. *Dickson:* Almost ruined by scab; some "sick wheat;" none of as good quality as last year. *Knox:* Black weevil has eaten up many lots of wheat; Fultz a success and very popular. *Monroe:* Poor; quality under par. *Lincoln:* Tappahannock did well; 4 quarts produced 2½ bushels. *Carter:* Much of the white wheat is of good quality, but red is considerably damaged by scab. *Montgomery:* Some "sick wheat" reported. *Blount:* Forty per cent. short, and inferior in quality.

WEST VIRGINIA.—*Tyler:* Quality generally good. *Brooke:* Injured by wet in the stack; otherwise it would have been above average. *Fayette:* Plump and heavy. *Jefferson:* Did not thrash out as well as was expected; quality good. *Mercer:* Half crop; quality inferior; injured by midge. *Braxton:* Yield generally satisfactory. *Harrison:* A half bushel of Fultz yield 3½ bushels in spite of winter-freezing; it stands winter better than Tappahannock wheat.

KENTUCKY.—*Russell:* Not over a half crop; injured by spot; some "sick wheat;" difficult to get good seed.

OHIO.—*Vinton:* Fultz promises to supersede all other wheat. *Montgomery:* Fultz very successful; from 3 quarts sown in 1871 were produced 3 bushels in 1872, and 99 bushels in 1873. *Medina:* Thrashes out of good quality and abundantly. *Geauga:* Average yield of excellent quality. *Licking:* From 4 quarts of Tappahannock badly winter-killed was harvested a bushel of very good wheat. *Morgan:* Fultz from the Department very satisfactory; Tappahannock also did well, except on low grounds, where it rusted. *Delaware:* Season poor for wheat; yield reduced 25 per cent. *Athens:* Average; would have been above but for the July flood.

MICHIGAN.—*Branch:* Not over 60 per cent. of an average. *Calhoun:* Full average. *Lenawee:* Turned out better than was anticipated; quality first rate. *Clinton:* Sound and good, but less white than last year. *Cass:* Foul from winter-killing, but when cleaned it is equal to last year.

INDIANA.—*Steuben:* Harvested in prime condition. *Floyd:* Light and poor; flour dark. *Brown:* Thrashed out below expectation. *Hamilton:* Three bushels of Fultz yielded 60. *Noble:* Good yield. *Decatur:* Short, and damaged by rain in the shock. *Scott:* Injured by chinches. *Hancock:* Damaged in the shock by wet.

ILLINOIS.—*Macon:* Some kinds badly shriveled; Genesee the plumpest berry. *Winnebago:* Good. *Bureau:* Will average 16 bushels per acre of No. 1 quality; some fields reach 20 or 25. *Clinton:* Somewhat injured by wet before stacking. *Massac:* Injured by rain. *Pope:* Injured by chinches. *Ogle:* Average about 18 bushels per acre; quality good. *Lee:* Averages 20 bushels per acre of good quality. *Boone:* Yield light. *McLean:* Quality good; deficiency of fall-wheat compensated by increase of spring-wheat.

WISCONSIN.—*Crawford:* Largest area of fall-wheat ever sown. *Walworth:* Small amount grown. *Portage:* Red Osauka, thickly sown, yielded 20 bushels per acre. *Waukesha:* Fine; a little heavier per bushel than last year. *Juneau:* Heavy failures in New York cut wheat down from $1 to 70 cents per bushel. *Green Lake:* Thrashes out well; better than was expected. *Saint Croix:* Never better. *Vernon:* Winter-wheat better than it appeared.

MINNESOTA.—*Blue Earth:* Fair crop, of excellent quality. *Le Sueur:* Fine harvest weather. *Ramsey:* Fine crop; average 17 to 18 bushels per acre. *Mower:* Prices fell from 90 to 65 cents per bushel. *Martin:* Late sowings ruined by black rust; earlier of good quality, averaging from 10 to 16 bushels per acre. *Nicollet:* Red Osauka rusted badly; Scotch Fife did best.

IOWA.—*Sioux:* Damaged by grasshoppers. *Calhoun:* Damaged 10 per cent. by blight. *Chickasaw:* Splendid condition; best yield ever known here. *Harrison:* Will yield more per acre than last year; increased total yield and improved quality. *Iowa:* Increased acreage, but reduced yield per acre. *Muscatine:* Good in quantity and quality. *Pocahontas:* Injured by grasshoppers. *Carroll:* Provence wheat scabbed badly. *Shelby:* Provence and White Australian wheats failures; no case of Provence wheat ripening; Oran wheat is promising; Fultz has not done well. *Marshall:* Averages about 10 bushels per acre. *Mitchell:* Spring-wheat a large crop.

MISSOURI.—*Gasconade:* Tappahannock has excelled all other varieties both in quantity and in quality. *Montgomery:* Early-sown wheat damaged by grasshoppers, which have been driven off by frosts. *Carter:* Tappahannock our best wheat. *Mercer:*

Good. *Pulaski:* Light, but better than last year; injured by chinch-bugs. *Newton:* Good quality; 60 to 64 pounds per bushel.

KANSAS.—*Labette:* Wheat yield increased from 200,000 bushels last year to 500,000 this year; would have been a quarter million more but for the chinch-bugs. *Montgomery:* Damaged by chinch-bugs. *Cherokee:* Prime where not affected by chinch-bugs. *Cowley:* Very good quality; average between 15 and 20 bushels per acre, some fields reaching 35. *Washington:* Good and of good quality. *Atchison:* Thrashes out 15 per cent. better than was anticipated.

NEBRASKA.—*Madison:* Shortened by grasshoppers. *Cass:* Damaged considerably by blight. *Nuckolls:* Severely injured by frost September 18.

CALIFORNIA.—*Sonoma:* In spite of the lack of usual spring rains the wheat-crop thrashes out a third above last year's yield; quality of grain unusually good. *Contra Costa:* Yield generally beyond expectations; kernel bright and plump. *Alameda:* Price from $2.20 to $2.40 per cental.

OREGON.—*Lane:* From 30 to 50 per cent. above last year; price has risen from 60 to 85 cents per bushel. *Benton:* Spring-wheat the best. *Grant:* Unusually fine growing season for cereals. *Clackamas:* Crop larger and better than last year.

UTAH.—*Sevier:* Rust in wheat.

NEW MEXICO.—*Taos:* Almost a failure on uplands.

WASHINGTON.—*Lewis:* Never better. *Thurston:* White Dial weighs 66 pounds per bushel. Cook's white winter, Canada winter, and Australian spring are our best varieties.

OATS.

The oats crop averages 92. The product is equal to last year, or above, in Vermont, 102; Delaware, 117; Maryland, 109; Virginia, 120; North Carolina, 100; South Carolina, 112; Georgia, 117; Alabama, 117; Mississippi, 107; Texas, 120; Arkansas, 112; Tennessee, 110; West Virginia, 118; Kentucky, 104; Wisconsin, 104; Minnesota, 100; Kansas, 105; Oregon, 123; in all the other States the yield is decreased. An improved quality of grain is noted in Vermont, Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia, Alabama, Mississippi, Texas, Arkansas, Tennessee, West Virginia, Michigan, Wisconsin, Minnesota, Kansas, California, and Oregon. The Potato oats appear to have succeeded better in the more southern cotton States. In Clarendon County, South Carolina, they grew finely, but ripened two weeks later than other varieties. In Saint Clair County, Alabama, they grew nearly 7 feet high, and did well in Barbour. The Schonen oats maintained their reputation in Sullivan County, Tennessee, and Mercer and Harrison Counties, West Virginia. The Hopetown oats are well spoken of in Sullivan County, Tennessee, and the white Probestier in Isanti County, Minnesota.

MAINE.—*Oxford:* Injured by drought.

NEW HAMPSHIRE.—*Carroll:* Shortened by drought.

VERMONT.—*Rutland:* Shortened by drought; grain light in weight.

CONNECTICUT.—*New London:* Fair in spite of drought.

NEW YORK.—*Genesee:* Crop 60 per cent. of a full crop. *Sullivan:* Season too dry for oats. *Seneca:* Damaged by wet.

NEW JERSEY.—*Cumberland:* Injured by drought in June. *Morris:* Poor; straw very short. *Warren:* Quantity the same as last year, quality better.

PENNSYLVANIA.—*Cambria:* Short-strawed but well headed. *Washington:* Yield in bushels large, but light in weight.

MARYLAND.—*Baltimore:* Shortened by drought, but of fair quality. *Howard:* Shortened by drought. *Cecil:* Below average but heavy-grained.

VIRGINIA.—*Page:* A quart of Scotch potato-oats produced 16 quarts of inferior quality. *Pittsylvania:* Late sowings poor. *Prince George:* Schonen oats from the Department have yielded heavily, and are becoming very popular. *Highland:* Never better.

NORTH CAROLINA.—Above average, 20 per cent.

SOUTH CAROLINA.—*Clarendon:* Potato oats grow finely but ripen two weeks later than the black oats. *Orangeburgh:* Schonen did finely. *Union:* Best oats year we ever had.

ALABAMA.—*Barbour:* Excelsior and Potato oats did well. *Saint Clair:* Potato oats from the Department grew 6 feet 10 inches high. *Randolph:* Full crop.

LOUISIANA.—*Caddo:* By mistake in the last monthly report our crop was reported at an average of 80 bushels per acre instead of 80 per cent. of an average crop.

TEXAS.—*Titus:* Never better; free from rust and smut. *Red River:* Very fine. *Upshur:* Too short-strawed for cutting to advantage. *Uvalde:* Damaged by grasshoppers.

TENNESSEE.—*Sullivan:* Potato oats not suited to the climate; Schonen maintain their high reputation; Hopetown oats fine, bright-strawed, grain abundant, large, and bright. *Monroe:* Excellent. *Blount:* Crop larger and of better quality than usual.

WEST VIRGINIA.—*Brooke:* Injured in shock and stack by wet weather. *Mercer:* Above average. Schonen did well; superior to most other kinds; yield heavy. *Harrison:* White Schonen and Yellow Scotland oats both excellent.

KENTUCKY.—*Russell:* Very fine. *Spencer:* Shortened by rust. *Daviess:* The most promising crop ever known till spoiled, just at ripening, by heavy rains.

OHIO.—*Geauga:* Almost destroyed by grasshoppers. *Mahoning:* Badly injured by grasshoppers. *Vinton:* Injured by wet weather. *Athens:* Acreage reduced by wet spring, but yield and quality are good.

MICHIGAN.—*Lenawee:* Shortened by drought and rust. *Branch:* Twenty per cent. below average.

INDIANA.—*Steuben:* Harvested in prime condition. *Ripley:* Injured by chinch-bugs. *Noble:* Injured by drought. *Decatur:* Good, but saved with difficulty on account of rains. *Scott:* Injured by chinches.

ILLINOIS.—*Franklin:* Ten days before harvest the crop was remarkably promising, but heavy storms beat down the grain, rendering it very difficult to gather, and equally difficult to thrash. *Macon:* Late sowings badly blown down and imperfectly filled. *Bureau:* Crop short but of good quality. *Clinton:* Shortened by drought and chinches. *Washington:* Would have been above average but for rains just before harvest which beat down the grain. *Champaign:* Nearly destroyed by storms and worms. *Pope:* Injured by chinches. *Rock Island:* Half of last year's yield. *Ogle:* Reduced acreage; average yield 38 bushels per acre. *Lee:* Short and light in weight; straw better than last year for feeding stock. *Boone:* Deficient in quantity and quality; generally rusted. *Mason:* Yield less than last year, but quality 20 per cent. better. *McLean:* Inferior, but harvested without rain. *Knox:* Light in consequence of drought.

WISCONSIN.—*Green Lake:* Failed in some places. *Brown:* Very light.

MINNESOTA.—*Blue Earth:* Crop large and of good quality; acreage small. *Isanti:* White Probestier oats from the Department yielded heavily; they suit the climate well. *Nicollet:* Turn out reasonably well; good quality.

IOWA.—*Harrison:* Decreased acreage, but yield and quality good. *Muscatine:* Injured by drought. *Pocahontas:* Injured by grasshoppers. *Mitchell:* Fair.

KANSAS.—*Labette:* Shortened by drought and chinches. *Cowley:* Crop moderate. *Nemaha:* Half crop.

NEBRASKA.—*Madison:* Largely destroyed by grasshoppers, even in the shock.

OREGON.—*Grant:* Excellent; yield in some cases 60 bushels per acre.

IDAHO.—*Nez Percés:* Oats sown early on sod ground are yielding 50 and 60 bushels per acre.

WASHINGTON.—*Thurston:* Enormous crop, in some cases reaching nearly 90 bushels per acre; grain eight and a half feet high. *Lewis:* Never better; harvest delayed by wet.

RYE.

The general average of this crop is 98. An increased product, compared with last year, is shown in Massachusetts, Connecticut, New Jersey, Pennsylvania, Maryland, Florida, Arkansas, Missouri, Kansas, Nebraska, and Oregon; in all the other States the yield is less than that of 1872. The average quality shows improvement in Vermont, Connecticut, Pennsylvania, Texas, Michigan, Wisconsin, Minnesota, Iowa, Kansas, and Oregon. Maine, Massachusetts, New York, New Jersey, Maryland, Virginia, Florida, Ohio, and California report a quality of grain fully equal to last year; the other States are all below.

CONNECTICUT.—*New London:* Fair in spite of drought.

NEW JERSEY.—*Burlington:* Both grain and straw excellent.

PENNSYLVANIA.—*Cambria:* Fair. *Northampton:* Crops large and good.

MARYLAND.—*Baltimore:* Increased attention to rye culture.

GEORGIA.—*Marion:* Rye from the Department failed, while native grain beside it grew 6 feet high.

MISSOURI.—*Mercer:* White Scotch rye from the Department did well; 4 quarts of seed yielded 3 bushels.

BARLEY.

A general average of 88 per cent. of last year's crop is indicated. An increase is secured of 5 per cent. in Missouri, of 6 per cent. in West Virginia and Kansas, and of 19 per cent. in Oregon. The yield is equal to last year's in Connecticut. In all the other States it has declined, the greatest loss—28 per cent.—being in Minnesota. The quality is equal to last year's, or better in West Virginia, Kentucky, Missouri, California, and Oregon. No returns were received from Rhode Island, Delaware, Maryland, Virginia, North Carolina, South Carolina, Florida, Alabama, Mississippi, Louisiana, Texas, Arkansas, and Tennessee, where it is scarcely known as a crop.

BUCKWHEAT.

Buckwheat was of average condition, or above, in New Hampshire, Vermont, New Jersey, Delaware, Maryland, Virginia, Georgia, Arkansas, and West Virginia. In all the other States the crop declined below average, reaching its lowest point (64) in Iowa. Little is grown in Rhode Island, South Carolina, Florida, Mississippi, Louisiana, and California. In several of the Northern States the crop was injured by early frosts.

POTATOES.

This crop is above average in condition in eleven States, as follows: Vermont, 108; Massachusetts, California, and Oregon, 105; Connecticut and South Carolina, 104; New York, 107; New Jersey and Virginia, 101; Alabama, 110; Texas, 109. Rhode Island and Pennsylvania are average, and all the other States below; Iowa, 51; Nebraska, 56; Kansas, 58; Illinois, 59; Missouri, 61; Indiana, 77; the remaining States range between 68 in Delaware, and 98 in Maine, New Hampshire, and Georgia. For all the States, the average condition is 89. Some depredations by the Colorado beetle and other insects are noted in the Mississippi Valley and as far east as Pennsylvania, and the rot has prevailed to a limited extent in a few localities; but in the States in which the potato-crop is an important one, and which report a low condition, drought has been the chief cause. Our reports generally concur in representing the quality as unusually good.

MAINE.—*Piscataquis:* Drought severe on potatoes. *Waldo:* Excellent in quality. *York:* Heavy crops.

NEW HAMPSHIRE.—*Cheshire:* Very nice.

VERMONT.—*Rutland:* Excellent.

MASSACHUSETTS.—*Bristol:* Early potatoes affected by drought. *Norfolk:* Crop larger and better than usual.

CONNECTICUT.—*Hartford:* Better in quality than for forty years.

NEW YORK.—*Genesee:* Fine. *Franklin:* Worth 40 cents per bushel for food and 30 cents for starch-making. *Columbia:* Crop extra, but rotting. *Allegany:* Shortest crop in thirty years; some will not get back their seed and others not over half a crop.

NEW JERSEY.—*Sussex:* Early varieties shortened by drought; later plantings turning out very well.

PENNSYLVANIA.—*Cambria:* Potato-bugs very destructive and hard to exterminate; some rot. *Indiana:* Crop light; injured by bugs. *Westmoreland:* Potato-bugs do not appear to have done much damage. *Northumberland:* Uncommonly abundant and fine. *Armstrong:* Late potatoes not worth digging; destroyed by bugs. *Butler:* Late plantings diminished one-half by bugs. Early Rose a full yield.

MARYLAND.—*Baltimore:* Early crop light; later never better. *Howard:* Early plantings shortened by drought. *Cecil:* Early potatoes injured by drought; late ones very fine.

VIRGINIA.—*Highland:* Good.

GEORGIA.—*McDuffie:* Never better.

TEXAS.—*Wood:* Crop made before the drought set in, and hence good.

TENNESSEE.—*Madison:* Very poor crop. *Lawrence:* Much damaged by drought. *Dickson:* Late plantings shortened by drought and bugs. *Monroe:* Better than for several years. *Blount:* Probably a failure. *Fentress:* Good.

WEST VIRGINIA.—*Tyler:* Not much injured by bugs. *Brooke:* Poor crop; injured by Colorado-beetle. *Fayette:* About average. *Jefferson:* Late plantings did not fill well. *Marion:* Dug early to escape grub-worms. *Braxton:* Good. *Pleasants:* Much injured by bugs.

KENTUCKY.—*Jefferson:* A fair crop—say two-thirds average—will be gathered in spite of the bug. *Shelby:* Not over 40 per cent. of an average. *Russell:* Good.

OHIO.—*Warren:* Half crop, but good quality. *Crawford:* Saved from Colorado-beetles by Paris-green and systematic picking. *Erie:* Injured some by bugs but more by blight. *Geauga:* Bugs destructive; crop fine where these did not appear. *Mahoning:* Materially damaged by bugs. *Medina:* Late potatoes poor; decreased acreage. *Adams:* Acreage larger than ever before; yield per acre greater than usual. *Delaware:* Below average; season unfavorable.

MICHIGAN.—*Ottawa:* Injured by bugs. *Martin:* Late potatoes shortened by drought. *Cass:* Injured by drought and frost. *Mecosta:* Late potatoes frosted.

INDIANA.—*Steuben:* Small, but of excellent quality. *Hamilton:* Light crop. *Decatur:* Damaged by Colorado beetle and common bugs.

ILLINOIS.—*Jersey:* Potatoes scarce; late plantings almost a failure. *Macon:* Nearly eaten up by bugs; shortened also by drought. *Bureau:* Small and few. *Carroll:* Killing frost, September 14. *Massac:* Injured by drought. *Moultrie:* Reduced to a fourth of a crop by drought. *Pope:* Injured by drought. *Lee:* Nearly a total failure. *Boone:* Shortened by drought and bugs. *McLean:* Almost a failure. *Knox:* Late potatoes nearly a failure. *Montgomery:* Wilted by hot sunshine when setting the vines.

WISCONSIN.—*Crawford:* Late plantings injured by frost. *Walworth:* Unexpectedly large yield and good quality. *Ozaukee:* Late potatoes a failure through drought; early plantings a success, especially Early Rose. *Clarke:* Late plantings destroyed by cold, wet weather. *Dunn:* Partial failure through drought and chinch-bugs. *Douglass:* Injured by frost both in quantity and in quality. *Richland:* Half a crop. *Vernon:* Injured by drought.

MINNESOTA.—*Ramsey:* Neglected crops used up by bugs. *Blue Earth:* Badly injured by drought. *Nicollet:* Crop light; bugs more numerous than ever before. *Redwood:* Late potatoes a failure through drought and early frost. *Blue Earth:* Ruined by drought.

IOWA.—*Cass:* Shortened by drought nearly 40 per cent. *Calhoun:* Small and few. *Harrison:* Reduced plantings; shortened by grasshoppers and drought; crop nothing to compare with last year's fine yield. *Marion:* Failed through drought. *Union:* Shortened by extreme drought. *Iowa:* Injured by frost. *Muscatine:* Drought and bugs have greatly reduced the crop; most of those gathered are very small, except Early Rose. *Jefferson:* Ruined by drought. *Scott:* Shortened by drought. *Marshall:* Short but good. *Taylor:* Almost a failure through drought. *Mitchell:* Excellent. *Monona:* Many fields entirely failed; having planted 700 acres I am buying my potatoes.

MISSOURI.—*Adair:* Late plantings not half a crop; shortened by drought. *Worth:* Reduced by drought to a half crop; quality good. *Daviess:* All late plantings injured by drought. *Pulaski:* Injured by drought. *Grundy:* Scarce. *Shelby:* Early plantings fair; late ones scarcely any yield.

KANSAS.—*Labette:* Shortened by drought. *Bourbon:* May be half a crop. *Clay:* Damaged by drought. *Kansas:* Very scarce through drought. *Montgomery:* Light, unless the autumn be favorable. *Coffey:* Shortened by drought. *Cherokee:* Improved by late rains. *Cowley:* Moderate. *Douglas:* Early Rose did well; later varieties short. *Reno:* Early potatoes good; late ones scarcely worth digging. *Washington:* Reduced by drought and bugs to a fifth of a crop. *Shawnee:* Drought left but few potatoes.

NEBRASKA.—*Madison:* Colorado-beetles have been very destructive; cut down the crop one-half. *Nemaha:* Nearer a failure than ever before. *Gage:* Late potatoes will not return much more than their seed.

NEVADA.—*Esmeralda:* No frost yet to kill potato-vines; season favorable.

SWEET POTATOES.

The average condition of this crop is in, Virginia, 101; South Carolina, 102; Georgia and Alabama, 104; Florida, 110; Texas, 117; West Virginia, 100; in the remaining States which grow the crop (except Pennsylvania, 103, in which it is grown on a limited scale) the condition is below average, the range being between 99 in Mississippi and Arkansas and 79 in Illinois.

BEANS.

This crop was in average condition or above in Vermont, Massachusetts, Pennsylvania, Virginia, South Carolina, Alabama, Arkansas, West Virginia, and Oregon. In all the other States it was below average; the minimum, 81, is reported in Iowa.

PEASE.

The acreage of this crop, compared with last year, was increased 1 per cent. in Indiana and Wisconsin, 2 per cent. in California, 3 per cent. in Virginia and Oregon, 4 per cent. in Georgia and Arkansas, 5 per cent. in South Carolina, 6 per cent. in Louisiana, 9 per cent. in Alabama, 10 per cent. in Delaware, and 14 per cent. in Texas. In West Virginia and Iowa the acreage was equal to last year. All the other States show a decrease, the greatest ratio, 15 per cent., being shown in Florida and Kansas. The condition of the crop was average or above in Vermont, Pennsylvania, Delaware, South Carolina, Georgia, Alabama, Louisiana, Texas, Arkansas, Michigan, Indiana, and Wisconsin. All the other States were below average, the lowest being Missouri, 88.

SORGHUM.

Sorghum was 3 per cent. above average in Texas, and 5 per cent. in Georgia. In all the other States it was below, ranging down to 81 in Missouri. No returns of this crop were received from the New England States, New York, New Jersey, South Carolina, Florida, Louisiana, Wisconsin, California, and Oregon. At several points in the Northwest its culture and manufacture were reported as declining. In some of the northwestern counties the crop was injured by frost.

COTTON.

The average condition of cotton in the first week of October, as compared with October reports of 1871 and 1872, stands as much higher than that of the former year as it falls below the records of the latter. The standard crop being a good normal growth, the yearly losses from worms or other casualties almost always reduce the record below 100, and the greatest reduction usually occurs in September. The average this year has fallen off from 89 to 78½ since the first week of September; a larger reduction than usually occurs. The general average in October of 1871 was 76; it was 82 in October of last year. The area was one-eighth greater in 1872, and the autumn more favorable for development and picking, and the result an increase of about one million bales. The area of the present year was increased about 10 per cent., but a portion of this enlargement was abandoned, and the October status of the crop is materially reduced. The season must be of average length, and comparatively favorable for picking, to insure a crop equal to that of last year.

The following figures represent the condition of cotton, as reported in October of the last three seasons:

	1871.	1872.	1873.
North Carolina	80	90	88
South Carolina	75	86	80
Georgia	72	88	82
Florida	73	75	76

	1871	1872.	1873.
Alabama	75	82	78
Mississippi	76	78	75
Louisiana	73	72	72
Texas	70	85	80
Arkansas	82	75	83·
Tennessee	94	90	90

The month of September witnessed several storms of rain in the South Atlantic States, which injured the plants, beat out and stained the fiber, and retarded the picking. A storm on the 19th of September proved particularly disastrous in Florida and in parts of adjacent States. Worms have continued their ravages and made advances upon new territory in Arkansas and North Carolina. Several counties in the latter State report the presence of caterpillars for the first time. There is a general complaint that the plants are already bare of leaves, and that picking will be completed at an early date. In some counties of the Gulf States it is claimed that there will be an average crop, notwithstanding the caterpillar and boll-worm, while in other counties a loss of one-third of the crop from worms is expected.

VIRGINIA.—*Prince George:* Late planted and injured by caterpillars; cotton-culture is superseding pea-nut culture. *Southampton:* Excessive rains have caused a large growth of weeds, with but few bolls; leaves stripped by caterpillars. *Princess Ann:* Worms in the crop.

NORTH CAROLINA.—*Gaston:* Fair average if frost delays till October 20. *Chowan:* Heavy rains have greatly injured the crop; army-worms in many fields have destroyed the leaves and later bolls; never had cotton-worms here before. *Sampson:* A partial failure through excessive rains and caterpillars; very few leaves left, and young bolls now in process of destruction. *Lenoir:* Three-fourths of a crop; worms appeared August 15, and have been destructive. *Beaufort:* Seriously injured by excessive rains; caterpillar appeared for the first time, and was very destructive. *Pitt:* Considerably damaged by worms. *Currituck:* Ruined by army-worms; fields stripped bare, and the promised yield cut down at least one-third. *Wake:* Financial panic interferes with the picking. *Carteret:* Worse injured by army-worms than ever before; late plantings but half a crop. *Martin:* Late crop taken by caterpillars, which stripped the leaves and ate many bolls. This is entirely new here. *Perquimons:* Reduced to a half-crop by rain and army-worms. *Bladen:* Injured by rust and army-worms; some estimate the crop at one-half average. *Cumberland:* Damaged 33 per cent. by excessive rains; rainy picking-season. *Jones:* Shortened by heavy rains in August, and worms in September. *Anson:* A failure through excessive wet. *Greene:* Smaller crop than ever known; leaves stripped by worms. *Stanley:* Worms in cotton in parts of the county where it was never before known, but too late to do damage.

SOUTH CAROLINA.—*Chester:* Twenty-five per cent. below last year; injured by frequent rains. *Greenville:* Peeler has grown from 3 to 6 feet high; as many as 90 blooms on one stalk; probably 12 bolls per stalk will mature before frost; 5 is considered a good average here. *Richland:* Young cotton largely destroyed by caterpillars, and old cotton very much injured; excessive rains have filled the field with grass. There was no August crop, only July fruit maturing. *Clarendon:* Rains in August and September rusted the crop disastrously, in some localities, considerably reducing the general average. *Newberry:* Injured by rust and caterpillars. *Chesterfield:* The crop has fallen off 10 per cent. through rains, caterpillars, and boll-worms; some whole crops ruined by the latter. *Williamsburgh:* Ruined by rust, caterpillars, and boll-rot; being open, it has been largely stained by rains. *Orangeburgh:* Worms swept the crop as effectually as a frost; appeared September 15. *Lexington:* Suffered from long heavy rains, and from army-worms. *Union:* September favorable to cotton; crop average, but about one-sixth under last year's. *Laurens:* One-third below average, through rain, rust, and worms; leaves stripped. *Fairfield:* Damaged by heavy rains and caterpillars; no clean cotton yet saved. *Edgefield:* Growth stopped by caterpillars, rust, &c.; bolls opening fast; fine picking-season.

GEORGIA.—*Gordon:* Opening well; yield large; lint fine; season dry. *Upson:* Boll-worms injurious, especially on low lands, where the growth was rank and heavy; caterpillars appeared later, and scarcely a field has escaped their ravages. *McDuffie:* Shortened 20 per cent. by rain, rust, boll-worms, and caterpillars. *Worth:* Shortened a third by caterpillars. *Muscogee:* Caterpillars have stripped the leaves and destroyed the top crop as well as a portion of the middle crop. *Madison:* Top crop badly shed owing to wet, rust, and army-worms. *Lincoln:* Greatly damaged by rain-storms and

ravages of caterpillars; yield one-third below last year. *Dooly:* Badly damaged by caterpillars and rust. *Columbia:* Very short; little or no August crop; injured by heavy rains. *Hart:* Possibly one-half short. *Carroll:* Badly damaged by drought and caterpillars. *Sumter:* Cut short by caterpillars. *Marion:* Cotton will not mature in its present condition as the leaves are all off and worms are now eating the bolls. *Liberty:* Scarcely a green cotton-leaf remains. The crop was also injured by the great storm, September 19. *Lee:* Since last report the crop has been injured at least 20 per cent. by worms; it has also suffered from recent heavy rains. *Clinch:* Caterpillars cut down the crop one-half. *Walton:* Materially injured by drought. *Butts:* Promises a full average in spite of boll-worms and caterpillars. *Douglass:* Bolls prematurely opened and spoiled by rains; the stalks being low and the bolls near the ground, the cotton is depreciated 1 to 1¼ cents per pound. Derangement in money matters will bring low prices, which will greatly embarrass farmers. *Gwinnett:* Leaves stripped by army-worms; late bolls injured somewhat. Peeler cotton good though a little late; finer texture than common varieties, and worth a cent and a quarter more to the pound. *Richmond:* Caterpillars have destroyed the August cotton in most of the county. *Schley:* Swept by caterpillars. *Twiggs:* Swept by boll-worms and caterpillars. *Baldwin:* All the fruit from the blossoms of the last week of August and the first two weeks of September destroyed by caterpillars and boll-worms. *Calhoun:* Cut down 30 per cent. by caterpillars and wet weather; the remnant will be greater than last year's yield. *Heard:* Unprecedented destruction by caterpillars and boll-worms. *Wilkinson:* Ruined by rust and caterpillars. *Wilkes:* Caterpillars very destructive; have stripped the leaves. *Jackson:* Not over two-thirds of a crop in spite of enormous quantities of guano; caterpillars destructive. *Merriwether:* Picking-season favorable. *Whitfield:* Good. *Spalding:* Excessive weed; poorly fruited; injured by worms. *Macon:* Injured by the heavy storm of September 19; picking-season very favorable; crop probably 25 per cent. below average. *Coweta:* Stripped by caterpillars; opening slowly. *Decatur:* Injured by heavy storm, September 19; crops scattered and cotton-gins demolished. *Brooks:* Great injury from the storm of September 19. *Franklin:* Considerably shortened by worms.

FLORIDA.—*Taylor:* Late cotton cleaned out by the caterpillar. *Leon:* A fourth of the crop destroyed by the great storm of September 19. *Wakulla:* Shortened possibly one-half by the equinoctial gale. *Suwannee:* Injured by caterpillars; Peeler upland the poorest ever tried here. *Columbia:* Much injured by rust and caterpillars. *Gadsden:* Immense destruction of cotton by the storm of September 19; cotton all open, and especially liable to injury. *Hamilton:* Seriously injured by storm and caterpillars. *Orange:* Excessive rains prevented a good fruitage; crop small. *Levy:* Prospect much improved; good picking-season; staple better than usual. The great storm did not reach east of township 17, range 17.

ALABAMA.—*Greene:* No top crop; small middle and bottom crops; eaten by boll-worms and caterpillars. *Chambers:* Would have been average but for caterpillars. *Montgomery:* Weed late, and worms early; crop figures greatly depressed in consequence. *Jackson:* First crop good; later pickings not so good; opening too rapidly through drought. *Bibb:* At least a third destroyed by caterpillars. *Clarke:* Full average in spite of worms. *Saint Clair:* Peeler cotton promises 500 pounds per acre. *Hale:* Poorest crop for thirty-five years; destroyed by boll-worm and caterpillars, mainly the latter. *Geneva:* All that could be reasonably desired, though both boll and leaf worms did some little damage. *Calhoun:* Badly damaged by worms; worse than last year. *Franklin:* Picking-season opened well; many say they are getting two-thirds of the yield at the first picking; light frost September 15, but no damage; top crop out of danger, but the picking is interrupted by rains; last year's crop all of low grade. *Winston:* Opening freely, with fine picking weather; crop better than was expected. *Conecuh:* Twenty-five per cent. short of last year's crop. *Randolph:* July crop good, but that of August and September almost a failure; worms destroyed squares and half-grown bolls. *Morgan:* Fine picking-weather; quality good. *Crenshaw:* Equal to last year.

MISSISSIPPI.—*Tishemingo:* Not so good as usual; good picking-season. *Lee:* Boll and leaf worms on low, rich lands reduced the general average to 60. *Grenada:* Most of the crop will be picked by November 10—a very unusual fact; yield 20 or 25 per cent. less than last year. *Warren:* Damaged 20 per cent. since September 1, by worms and boll-rot. *Pike:* Curtailed by boll-worm, rust, and caterpillar. *Wilkinson:* Great destruction by boll-worms and other insects, as well as by rot from constant wet weather. *Rankin:* Nearly all open and the cotton falling out; deterioration of 20 per cent. in the last month, through drought and caterpillars. *Attala:* Short crop. *Claiborne:* Late cotton ruined by worms. *Clarke:* September favorable for picking; worms, in many places, destroyed the top crop. *Jasper:* Worms injured the crop in the last week of August, causing it to open prematurely; picking late; quality poor. *Leflore:* Fallen off 20 per cent., from worms and shedding of forms and blooms. *Madison:* Depreciated greatly in two months, from worms, shedding, &c. *Noxubee:* Spotted; tolerable crop in some places; in others almost a failure. *Winston:* Lately injured by worms.

Holmes: Injured by worms and wet weather. *Washington:* Leaves stripped by worms, and hence cotton opens faster than it can be picked. *Yalabusha:* Top crop shed, through drought, to a considerable extent; bottom and middle crop will mature before frost. *Lowndes:* Failure of this crop will put it out of the power of many to raise another; what will be saved from the wreck will cost 30 cents a pound.

LOUISIANA.—*Claiborne:* Crops swept by worms, especially late ones. *Washington:* Average in spite of worms: picking will be finished before November; crop equal to last year's. *Franklin:* Promising up to September 1; stripped by worms, since, of everything except full-grown bolls. *Morehouse:* Opening very fast in the dry weather; boll-worms very bad. *East Baton Rouge:* The dreaded cotton worm has come, and has reduced the prospective yield 10 per cent. since last report: nothing left for the frost; remains of the crop will be gathered within a month. *Rapides:* Weather not favorable for opening green bolls: cotton necessarily poor. *West Feliciana:* Stripped by caterpillars; crop but one-third of last year's. *Tuscaloosa:* From half to two-thirds of a crop; an early and persistent use of Paris green and arsenic secured good crops. *Madison:* Entirely stripped of leaves and small bolls; fine picking season. *Caddo:* Opening fast; half picked already. *Bossier:* Greatly injured by boll-worms and caterpillars. *Concordia:* Injured by rot and worms. *Tensas:* Stripped by worms in the first week of September; this injured later cotton, while the earlier suffered from rot.

TEXAS.—*Navarro:* Weather favorable for picking. *Henderson:* Shortened one-fourth by worms. *Collin:* No worms; picking progressing rapidly in the fine weather. *Liberty:* Better than was expected; worms unaccountably disappeared; crop quite grassy. *Austin:* Latest crops within memory of the oldest inhabitants; about half average. *Nacogdoches:* Almost entirely destroyed by caterpillars. *Columbia:* Since September 1 caterpillars have stripped cotton foliage, and eaten a large number of young bolls. *Cooke:* Cotton stood the drought very well. *Dallas:* Prospect good for a yield above average; 300 pounds of lint per acre; the most of the crop will class as good middling. *Fayette:* River lands a half crop; uplands a quarter crop. *Fannin:* Crop light; staple good. *Matagorda:* Almost a failure; one-tenth of a bale per acre. *Titus:* Cut down 20 per cent. by boll-worms. *Washington:* Weather fine for picking what was left by the worms. *Marion:* Materially injured by worms. *Red River:* Crop light; worms injurious. *Rusk:* Stripped of leaves by worms; boll-worms ate all the young bolls of August; Peeler seed good. *Wood:* Favorable for picking. *Williamson:* Will be 150 if frosts delay; freedmen picking better than since the war; commands 13 and 14 cents, specie. *Waller:* Devastated by worms; yield a bale to 10 acres. *Upshur:* Shortened by late season, boll-worms, and caterpillars. *Shelby:* Shortened one-half by boll-worms and caterpillars. *Medina:* Damaged by floods. *Laracca:* Crops injured by worms have come out wonderfully in the late fine weather. *Cherokee:* Injured by boll-worms, caterpillars, and different kinds of spear-worms. *Ellis:* Late, but will be average, if good weather continues. *Fort Bend:* Last year we shipped 7,000 bales; this year we will ship but 400.

ARKANSAS.—*Union:* Not over 150 pounds of seed cotton per acre for late crops; reduced by worms and drought within thirty days. *Sebastian:* Shortened by drought fully a third. *Independence:* Something over half a crop: average quality. *Yell:* Opening well; first picking injured by rain. *Crittenden:* Top crop shedding; yield reduced below average. *Arkansas:* Burnt out on uplands; top crop all gone; yield about equal to last year's. *Montgomery:* Runs to weed, and does not boll well: too much rain for heavy soils; will be average on sandy soils. *Fulton:* Many fields ruined by black rust. *Sharp:* Injured by rust.

TENNESSEE.—*Gibson:* Twenty per cent. less in quantity and 20 per cent. better in quality than last year's crop. *Fayette:* Short one-third; August bolls destroyed by drought; leaves discolored and dropping off as if frost-bitten. *Madison:* Very short, through drought. *Dyer:* Staple clean and fine, but shortened by drought one-fourth. *Dickson:* Troubled with worms, but of good quality. *Giles:* Opening unusually fast. *Clark:* Injured by drought, boll-worms, and caterpillars. *Obion:* Prospects good. *Hancock:* Upland cotton from the Department is full of large bolls, with lint longer than usual, but opening a little later. *Hayward:* Shortened a third by drought; top crop a failure.

KANSAS.—*Labette:* Fair and promising; 400 acres planted; picking commenced August 25.

TOBACCO.

The month of September appears to have been, on the whole, favorable to the maturity of the crop in the New England, Middle, and South Atlantic States, all of which, except Georgia, show increased averages. At one or two points in New England the frost more or less injured the crop. The lateness of planting caused considerable apprehensions

of similar results in several counties of Virginia, but no actual injuries had been experienced. Of the Gulf States, Alabama presents an improvement and Texas a decline. An experimental planting of Connecticut tobacco was found successful in Morehouse Parish, Louisiana. The crop remains about the same as last month in Arkansas; in Tennessee it exhibits a depressed average, drought and worms being alleged as the causes in several counties. In West Virginia and Kentucky, in spite of frosts in some counties, and excessive rains in others, the general condition and prospects of the crop have advanced. But little change is noted north of the Ohio River; grasshoppers injured the crop in Medina County, Ohio. West of the Mississippi, Missouri increases her average 7 per cent., notwithstanding late planting, drought, and frost reported in a few counties. Kansas reports about the same condition as at the close of August.

MASSACHUSETTS.—*Franklin:* A few patches injured by frost, but the crop mostly housed in good condition.

CONNECTICUT.—*New London:* Superior crop. *Hartford:* Hail storm of September 1, and frost September 15, cut off a quarter of the crop,

MARYLAND.—*Saint Mary's:* Crops planted in time have grown well generally; in some parts of the county not a third of a crop was planted. *Howard:* Late planted, hence a large portion is still exposed to frost.

VIRGINIA.—*Lunenburg:* September very favorable for tobacco. *Powhatan:* Splendid condition. *Spottsylvania:* Late but large growth; if frost delays till October 10 the crop will be the largest made since the war. *Nelson:* Crop late and poor; in danger of frost. *Halifax:* Improving, but late and threatened by early frosts. *Orange:* Recent rains and warm weather have brought the crop to about an average; another week will mature the late plantings. *Mecklenburgh:* Very late; but little cut as yet. *Henry:* Crop two weeks late, but with the present good weather two weeks longer the crop will be average.

NORTH CAROLINA.—*Forsyth:* Looks well. *Rockingham:* Crop as large as last year, but inferior in quality. *Person:* Improved beyond all expectation by the fall rains; heavy yield.

LOUISIANA.—*Morehouse:* An experimental planting of Connecticut tobacco successful.

TENNESSEE.—*Dyer:* Damaged 50 per cent. by drought. *Smith:* Largest crop for many years. *Montgomery:* Worms have made "spare-ribs and back-bones" of the crop. *Obion:* Pretty good. *Macon:* Late; no frosts yet.

WEST VIRGINIA.—*Mercer:* Exceeds any former crop. *Grant:* Largely frost bitten.

KENTUCKY.—*Daviess:* Acreage 25 per cent. greater than last year, but the crop was largely injured by excessive rains; yield probably from nine to ten million pounds. *Metcalf:* Crop tolerable; most of it still out in the rain. *Russell:* Late; threatened by frost; yield from 25 to 50 per cent. more than last year. *Warren:* Fine; leaves of extraordinary size. *Logan:* Badly injured by worms and delayed till endangered by frost; vegetation has imperfectly matured this season generally. *McLean:* Shortened 10 per cent. by drought. *Ohio:* Season unfavorable for maturing the plants, but favorable for harvesting.

OHIO.—*Medina:* Greatly injured by grasshoppers.

MISSOURI.—*Pulaski:* Injured by drought. *Dallas:* Seriously infected with worms. *Carroll:* Damaged by frost September 18. *Shelby:* Late, light, and badly frosted. *Linn:* Late crops frosted.

SUGAR-CANE.

The six Gulf States report a considerable growth of sugar-cane, as follows: Georgia, nineteen counties, averaging 108; Florida, seventeen counties, averaging 82; Alabama, five counties, 126; Mississippi, four counties, 102; Louisiana, twelve parishes, 97; Texas, thirteen counties, 96. The following supplementary notes will give some idea of the local character of the crops:

GEORGIA.—*Cobb:* As fine as ever was grown. *Jefferson:* Unusually fine. *Brooks:* Great injury from the storm of September 19.

FLORIDA.—*Columbia:* Damaged 20 per cent. by the storm of September 19. *Jackson:* Maturing finely.

ALABAMA.—*Geneva:* Fine. *Crenshaw:* Above average.
LOUISIANA.—*Terrebonne:* Plant cane good; stubble cane very poor. *Rapides:* Plant cane a fair average; stubble a failure.
TEXAS.—*Titus:* Promises a heavy yield, but facilities for manufacture are limited.

FATTENING CATTLE.

The number of fattening cattle is equal to or greater than last year's report in Vermont, Connecticut, Pennsylvania, Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Tennessee, Indiana, Wisconsin, Minnesota, Iowa, Kansas, Nebraska, and Oregon. All the other States show a decrease. Average number, 91 per cent.; average condition, 97 per cent.

The following notes show the condition of fall pastures in different States:

MAINE.—*York:* Pastures unusually good; extra growth of live stock will balance the loss in grain.
NEW HAMPSHIRE.—*Cheshire:* Continuous rains have brought out a heavy second growth of grass; grazing facilities extra.
CONNECTICUT.—*New London:* Fall feed better than for many years.
NEW YORK.—*Yates:* Pasture better than usual. *Warren:* Pastures and meadows seldom better; hay crop short. *Genesee:* Fall feed abundant. *Schoharie:* Second crop of clover hay better than the first; pastures fresh and good. *Rockland:* Aftermath heavy, helping out the short hay crop. *Columbia:* Fall pastures good. *Ontario:* Fall feed good.
NEW JERSEY.—*Sussex:* Excellent fall pastures.
PENNSYLVANIA.—*Cambria:* Hay good; second crop very good. *York:* Weather fine for a large second hay-crop and for abundant pasture. *Crawford:* Drought injured hay and pastures, but the latter is reviving under the late rains.
MARYLAND.—*Baltimore:* Fall pastures never better. *Cecil:* Fall pastures greatly improved.
VIRGINIA.—*Spottsylvania:* Large hay-crop; pastures very fine. *Nelson:* Pastures greatly enriched by August rains. *Halifax:* Fall pastures fine.
SOUTH CAROLINA.—*Greenville:* We have cut three crops of hay from fields manured with barn-yard. *Richland:* Pasturage good. *Orangeburg:* Kentucky blue-grass a failure. *Lexington:* Italian rye-grass and Kentucky blue-grass experiments failed.
GEORGIA.—*Jefferson:* Rains have impeded hay harvest; crab-grass exceedingly abundant; it is the cheapest crop that can be raised, yet it is much neglected.
FLORIDA.—*Santa Rosa:* Last cutting of hay large and valuable, owing to the moisture of the growing season.
TEXAS.—*Austin:* Prairie pasture better than for many years, and hence cattle are in unusually fine condition. *Harris:* Rains have brought out grass-crops finely; hay in great abundance, and cattle are in better order than for years.
ARKANSAS.—*Arkansas:* Pasture drying up. *Fulton:* Prairie-grass remarkably good, remaining green longer than usual.
TENNESSEE.—*Jackson:* Italian rye-grass probably a failure on account of late sowing. *Bradley:* Young clover injured by grasshoppers. *Grainger:* Pastures very good. *Montgomery:* Pastures given out. *Medina:* Pastures splendid, and cattle consequently in excellent condition.
WEST VIRGINIA.—*Grant:* Fall feed plenty. *Marion:* Fall pastures good. *Pendleton:* Pastures injured by drought. *Monongahela:* Fine growth of grass during the latter part of summer, which will make up, in part, for the short hay-crop.
KENTUCKY.—*Jefferson:* Fall pastures greatly improved by late rains. *Shelby:* Grass-crops shortened by drought. *Metcalf:* Pastures shorter than ever known. *Spencer:* Pastures dried up. *Miner:* Pastures injured by drought.
OHIO.—*Crawford:* Grasshoppers nearly ruined clover.
MICHIGAN.—*Hillsdale:* Fall feed good; fine fall rains. *Newaygo:* Fall pasture growing finely. *Mecosta:* Fall feed good.
INDIANA.—*Brown:* Fall pastures dried up. *Orange:* Pastures reviving. *Marion:* Fall pastures very poor. *Martin:* Pastures dried up; cattle falling in flesh. *Warren:* Fall pasture good. *Shelby:* Pastures failing from drought. *Jennings:* Pastures nearly dried up.
ILLINOIS.—*Winnebago:* Pastures bare; little or no grass in the meadows; many are feeding stock already. *Bureau:* Pastures short; cattle are already being fed on soft corn. *Carroll:* Late rains have partially restored the dry pastures. *Kankakee:* After-feed scarce; cattle thin. *Piatt:* Fall pasture getting good. *Knox:* Pastures short.
WISCONSIN.—*Jackson:* Grass very short and poor, but improving. *Green Lake:* Pas-

tures improved by recent showers. *Green:* Pastures shortened by drought; wells lower than for twenty years.

MINNESOTA.—*Le Sueur:* Hay secured in fine order.

IOWA.—*Tama:* Pastures poor and cattle in poorer condition than last fall. *Clinton:* Grass started by late rains. *Union:* Grass-crops shortened by extreme drought. *Floyd:* Fall pasture poor. *Carroll:* Prairie-grass did well.

MISSOURI.—*Platte:* No rain since July 9, hence pastures are dried up and stock poor. *Greene:* Late fine rains have made pasturage good. *Clay:* Fall pastures reviving with late rains. *Harrison:* Fall pastures good and stock doing well. *Cole:* Rains have started blue-grass again. *Grundy:* Pastures poor. *Pettis:* Fall range ruined by grasshoppers.

KANSAS.—*Wabaunsee:* Range pasture good.

CALIFORNIA.—*Del Norte:* Pasturage in better condition than for three years.

UTAH.—*Kane:* Rains have started winter-grass finely. *Tooele:* Pastures good; fine rains of late.

Table showing the condition of the crops, &c., on the 1st day of October, 1873.

States.	WHEAT.		RYE.		OATS.		BARLEY.		BUCK-WHEAT.	CORN.	POTATOES, (Solanum tuberosum.)	POTATOES, (Batatas edulis,) SWEET.
	Product compared with last year.	Average quality compared with last year.	Product compared with last year.	Average quality compared with last year.	Product compared with last year.	Average quality compared with last year.	Product compared with last year.	Average quality compared with last year.	Average condition October 1.	Average condition October 1.	Average condition October 1.	Average condition October 1.
Maine	75	96	85	100	75	94	78	91	79	85	98	.....
New Hampshire	93	98	92	99	89	94	83	97	100	99	98	.....
Vermont	102	106	97	101	102	102	97	98	100	97	108	.....
Massachusetts	84	102	105	100	93	99	94	95	95	97	105	.....
Rhode Island	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Connecticut	107	103	104	102	77	83	100	87	87	89	104	102
New York	91	106	99	100	88	97	86	98	97	89	107	.....
New Jersey	116	102	107	100	89	96	.....	.....	106	99	101	94
Pennsylvania	134	111	107	103	99	100	88	95	99	93	100	103
Delaware	98	105	.....	.....	117	117	.....	.....	105	76	68	60
Maryland	124	109	108	100	109	101	.....	.....	103	91	94	90
Virginia	86	94	91	100	120	111	.....	.....	102	99	101	101
North Carolina	73	90	70	96	100	104	.....	.....	92	95	90	97
South Carolina	79	81	90	90	112	112	.....	.....	.....	89	104	102
Georgia	70	84	86	94	117	109	93	96	100	102	98	101
Florida	.....	.....	103	100	94	99	.....	.....	.....	101	90	110
Alabama	80	80	93	95	117	107	.....	.....	97	92	110	104
Mississippi	85	94	96	97	107	103	.....	.....	.....	86	99	99
Louisiana	.....	.....	.....	.....	.....	.....	.....	.....	.....	92	95	94
Texas	102	95	94	101	120	109	.....	.....	98	78	109	117
Arkansas	112	96	102	97	112	105	.....	.....	100	100	93	99
Tennessee	72	84	92	95	110	101	.....	.....	89	91	93	102
West Virginia	98	95	94	98	118	102	106	103	102	96	95	100
Kentucky	92	88	85	92	104	98	81	100	97	94	90	97
Ohio	102	103	97	100	84	93	90	95	98	88	89	93
Michigan	82	101	96	108	96	101	93	102	78	88	89	91
Indiana	88	94	97	98	81	94	94	97	82	84	77	92
Illinois	106	101	84	97	82	97	81	92	70	67	59	79
Wisconsin	118	107	94	101	104	101	98	101	71	88	95	.....
Minnesota	120	110	96	102	100	103	72	97	98	97	90	.....
Iowa	112	108	97	102	96	99	79	88	64	81	51	81
Missouri	149	101	101	99	93	98	105	100	65	76	61	80
Kansas	139	107	136	102	105	101	106	95	71	66	58	83
Nebraska	120	104	106	99	80	99	95	98	74	77	56	87
California	84	100	99	100	97	101	91	100	.....	100	105	96
Oregon	129	104	114	105	123	105	119	103	100	100	105	.....

Table showing the condition of the crops, &c., on the 1st day of October, 1873—Continued.

States.	TOBACCO.	BEANS.	PEAS.		SORGHUM.	SUGAR-CANE, (not sorghum.)	COTTON.	OLD WHEAT.	FATTENING CATTLE.	
	Average condition October 1.	Average condition October 1.	Average compared with last year.	Average condition October 1.	Average condition October 1.	Average condition October 1.	Average condition October 1.	Average am't of, in your county, compared with last year. (Answer in *hundredths* as with other questions.)	Average no. of, compared with last year. (Answer in *hundredths* as with other questions.)	Average condition October 1, compared with last year.
Maine	.....	92	95	96	.....	.....	.....	100	93	90
New Hampshire	112	93	98	97	.....	.....	.....	100	99	104
Vermont	.....	100	96	100	.....	.....	.....	96	100	97
Massachusetts	105	100	95	95	.....	.....	.....	.....	96	99
Rhode Island	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Connecticut	96	.....	.....	.....	.....	.....	.....	100	105	107
New York	101	98	96	96	.....	.....	.....	75	93	101
New Jersey	.....	95	.....	.....	.....	.....	.....	94	99	104
Pennsylvania	88	100	98	100	88	.....	.....	84	100	102
Delaware	.....	90	110	100	90	.....	.....	90	100	105
Maryland	77	87	97	90	88	.....	.....	91	100	110
Virginia	85	100	103	99	99	.....	90	82	100	106
North Carolina	99	98	98	96	91	.....	88	86	101	102
South Carolina	.....	100	105	100	.....	.....	80	70	103	105
Georgia	101	99	104	102	105	108	82	84	104	108
Florida	.....	.....	85	96	.....	82	76	.....	102	105
Alabama	111	101	109	108	95	126	78	89	106	106
Mississippi	86	93	97	94	95	102	75	90	90	100
Louisiana	101	.....	106	103	.....	97	65	.....	95	113
Texas	93	96	114	106	103	96	80	117	92	111
Arkansas	101	100	104	100	93	.....	83	89	92	102
Tennessee	97	98	95	93	98	.....	90	86	102	109
West Virginia	100	102	100	99	95	.....	.....	84	99	103
Kentucky	92	91	95	93	99	.....	110	85	97	101
Ohio	93	96	99	98	93	.....	.....	86	99	101
Michigan	.....	95	99	103	88	.....	.....	80	97	98
Indiana	100	97	101	100	87	.....	.....	74	100	96
Illinois	90	87	98	90	83	.....	.....	85	91	97
Wisconsin	78	94	101	100	.....	.....	.....	85	100	99
Minnesota	.....	95	99	97	92	.....	.....	94	100	105
Iowa	.....	81	100	98	83	.....	.....	90	103	95
Missouri	89	84	91	88	81	.....	90	72	93	97
Kansas	95	81	85	96	87	.....	.....	94	111	99
Nebraska	.....	86	.....	.....	92	.....	.....	104	130	98
California	.....	92	102	97	.....	.....	.....	72	91	100
Oregon	.....	109	103	98	.....	.....	.....	61	114	105

EXTRACTS FROM CORRESPONDENCE.

LABOR AND COTTON PRODUCTION.

Dooly, Georgia.—There is a great deficiency in the labor system here. Most of the planters rent their lands to the freedmen, or take them in as "croppers," and in most cases the freedmen are too anxious to "lay by" the cotton-crop entirely too soon. It has been proved that late light plowing is of great advantage to cotton; it has a tendency to keep the plant healthy and in a growing condition; it is also held by some farmers that it is a preventive against rust; but my experience has taught me that it depends upon the condition of the weather and the manner in which the plowing is done. When the land is not too wet, late light plowing is certainly of great advantage to cotton.

There are two kinds of rust, the yellow and the black; the yellow is the most injurious, as it spreads all over the farm, while the black only makes its appearance in spots. I am of the opinion that there is no remedy for either.

Liberty County, Georgia.—The agricultural prospects of Liberty County are improving. The small farmers, who owned but few slaves and were inured to labor before the war, are now getting rich under the improved prices of all produce. The freedmen are also purchasing land and all kinds of stock. The better class of them prefer farming "on their own hook." The refuse can generally only be hired by the day or week. They must be paid on Saturday, and their earnings go for groceries and liquor. Labor is scarce and exacts high wages. The prospect is that common schools among the whites, with separate schools for the negroes, are about to be successfully inaugurated.

FAILURE IN GRASS-SEED.

Oldham, Kentucky.—Our orchard grass-seed crop is not over 40 per cent. of the usual yield. This county makes an average of some 30,000 to 40,000 bushels annually for sale, for which we have been getting from $1.50 to $2 per bushel. This year the crop will not exceed 15,000 bushels; cause of the failure, hard freezing and no snow to cover the ground in January last.

TOBACCO PRODUCT OF DAVIESS COUNTY.

Daviess, Kentucky, August 1, 1873.—The number of pounds of tobacco reported by me, (of the product of 1872,) June 26, 1873, was 11,417,000. The amount since reported as sold in McLean County is 350,000 pounds; reported by purchasers previously overlooked, 360,000 pounds; total raised in Daviess County in 1872, 12,027,000 pounds. I feel confident that the above number is not over the mark, as I have the reports of each purchaser, and may have overlooked some small purchasers. Does any county in the United States beat Daviess County, Kentucky, in the quantity of tobacco raised? Average price, leaf, lugs, and trash, 7½ cents per pound, or $902,025 for the crop.

COAL-ASHES AS A FERTILIZER.

Franklin, Pennsylvania.—I have always believed that coal-ashes had a value for agricultural purposes, and have advocated the free use of them, particularly on limestone soil. This season I determined to get closer to the root of the matter, and test their value fully. I had a plot of ground on which I had been unsuccessful for several years in raising good Early Rose potatoes. The soil was in the best condition always. The tops did well. This spring I had the ground scored about six inches deep, placed the cut potatoes in the bottom, and filled up with coal ashes. The plants grew finely, notwithstanding the dry weather. The tops did not fall over even after the weather changed, and I secured a crop of the very best potatoes for the table I ever raised.

The second experiment was with onion-seed and coal-ashes. I put out five good-sized beds in seed. In four the seed was covered with soil; the fifth I covered with sifted coal-ashes. The result surprised every person that knew of the experiment and watched its progress.

A third experiment was started on seed which promised utter failure to those who looked on; the end has not yet been reached, but I am more than satisfied with the result thus far, and fully satisfied that my experiment will bring me at least $100 more than if left untried. I have abiding faith in coal-ashes and am ready to use all I can purchase.

BUSH CLOVER.

Calhoun, Alabama.—We have in this and adjoining counties a species of wild or bush clover which grows wild on the road-sides, in old waste fields, and even in the woods where there is not much timber. I have just returned from an extensive trip in this county, and find that this season it is very luxuriant everywhere. Stock of all kinds are very fond of it. In uncultivated fields it grows from 10 to 12 inches high; not so high outside where it is exposed to stock all the time, but it becomes almost a perfect mat on the ground. It will eventually, I think, eat out or supersede the native wild grasses. In my opinion it is likely to really prove a great blessing to the country. Sheep and goats, as well as colts, quit the mountains about July, come down into the valleys, old fields, and road-sides, and keep fat on it until late in the fall. As a locality for sheep-husbandry, Calhoun County could not be excelled in the State, if it were not for wolves and dogs.

INCREASED PRODUCTION OF BRITISH FARMS.

"Worn-out soils," and "exhausted lands," are phrases that have no place in the vocabulary of an advanced agriculture. Deterioration is not the legitimate result of culture. When retrograde is the rule in the rate of yield, either a declining agriculture, or a primitive and unorganized one, may be assumed. In all the new States of this country, it has often been stated, the yield of the principal products tends rather to decline than to advance. The assumption is correct. Should this fact be deemed an industrial disgrace, and an indication of the inefficiency and unskillfulness of our farmers? Not necessarily. If we regard pioneer agriculture as only an incident to land speculation—the means by which a poor and farmless man may obtain a title, at a nominal cost, to land that will make either himself or his children rich, as settlement and society perfect the advance from nominal to intrinsic value—it is seen to have a basis of sound sense. If, on the other hand, wasteful and depleting methods are continued, and temporary want of system becomes habitual chaos, a stigma is assuredly placed on such practice, and the result is a disgraceful retrograde, disreputable and ultimately unprofitable. The tendency to a settled habit of shabbiness and wastefulness is so strong that the pioneer is naturally expected to sell out, remove, and open more wild land before the advancing wave of even a somewhat more methodical and scientific agriculture.

If our yield of wheat, for instance, is decreasing slightly, it is not because of the absence of all progressive elements in our agriculture, but from the fact that most of it is grown on new lands, by pioneer farmers, for the temporary purpose of money-making, without regard to a slight deterioration. Nor is the decline in yield wholly or mainly the result of depletion; it is often caused by careless culture, which fails to check the growth of weeds that ultimately overshadow and strangle the crops.

It is well known that Great Britain obtains larger average yields than any other country. A small area and a large resident population have made necessary a high state of culture and increased production. Science has been invoked, English, German, and French experiments have

been tested, capital without stint and business acumen have aided in the effort to obtain larger supplies of bread and meat from a given area.

Where this necessity has not existed, even in the British Colonies, the yield of wheat scarcely exceeds our own average. This is the case in Canada, in the Australian Colonies, and in New Zealand. In Europe the only close competitor with Great Britain in productiveness of the wheat area is Holland, a densely peopled country in which high culture has become the rule. According to the latest official statistics the following are the average rates of yield for the products named in the countries specified: .

Countries.	Date of returns.	Wheat.	Barley.	Oats.	Rye.	Maize.
		Bushels.	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*
Sweden	1870	.....	.....	.....	.....	.....
Norway	1870	22.1	30.3	35.7	25.9	.....
Prussia	1867	17.1	25.1	32.9	16.7	.....
Bavaria	1863	16.3	20.1	22.5	16.3	24.9
Wurtemburg	1871	19.3	25.7	28.4	19.4	18.4
Holland	1870	27.1	43.8	43.5	21.3	.....
Belgium	1866	20.3	34.9	41.2	24.6	.....
France	1869	17.1	20.9	25.6	15.5	17.1
Portugal	1865	8.9	11.1	18.6	6.7	20.0
Spain	1857	23.3	24.3	.....	8.4	.....
Austria	1871	15.2	17.0	19.2	14.7	15.1
Greece	1867	13.2	18.8	19.0	.....	17.4

What is the present British average yield of wheat? It is a matter of estimate. A government census of acreage is taken annually, but not of quantity of product. Some estimates make the average 32 bushels. Mr. James Caird, who is probably as good authority as can be cited, makes it 28 bushels. In 1850 he placed it at 26½ bushels. In 1770, Arthur Young, as the result of careful investigation, made the average 23 bushels. Assuming these figures to be correct, as they are deemed to be substantially by men of the best information and judgment, the increase has been 1½ bushels since 1850, and 5 bushels in the last century. This estimate is for Great Britain; the average for Ireland is placed at 24 bushels. The United Kingdom, therefore, makes an average of about 27 bushels. This is, of course, the average of a series of years, as the influence of the seasons causes fluctuations which probably cannot be measured by less than a range of 15 bushels, or from 20 to 35 bushels.

What are the means by which this pre-eminence is attained? Great Britain has a moist climate, less subject to drought than ours, yet the best yield in ten years was in 1868, a season remarkable for its high temperature and continued drought. Much of the area of that country is not adapted to wheat, which is mainly produced along the eastern and southern sea-board, a belt less humid than the northern and western counties, and scarcely extending through three degrees of latitude, in which little more than three millions of acres are cultivated—about the same area as that in wheat the present year in Iowa and Minnesota. The soil is not naturally so superior as to account for the high rate of production, which is mainly due to thorough comminution, manuring, and cultivation of the soil. All heavy soils are first underdrained, deep plowing follows, and then the sub-soil is broken; crops of clover collect ammonia from the atmosphere and form nitrates in the soil; crops of turnips, made plethoric by the use of commercial fertilizers, are eaten from the ground by fattening sheep to furnish the richest immediate manuring for the wheat-crop; and then the wheat is drilled in rows as

straight as an arrow; the horse-hoe, cultivating a breadth wide as that stirred by a common harrow, passes once, sometimes twice, with care and celerity between the drills, gently stirring the soil and uprooting weeds, while gangs of hands subsequently pass through the fields to extirpate the larger remaining weeds, which would otherwise go to seed and reduce future productiveness. Judicious rotation usually comes in to economize in the highest degree and utilize most beneficially the expensive stores of plant-food assimilated by the various crops.

Almost universally commercial fertilizers are used, not as a main dependence in fertilization, but as an adjunct of and complement to the home manures obtained by the feeding of cattle and sheep, and to the various resources of clovering and green-manuring. It is a confidently received opinion that paying productiveness cannot be permanently maintained without the consumption of a considerable proportion of the farm products of domestic animals. This opinion is accredited with a common-sense basis, and has the sanction of long and successful experience; in the case of the farmer of average skill and of traditional practice it is assuredly the only safe rule to follow, as a matter of economy in fertilization; except in peculiar circumstances of soil and situation, where suitable artificial aids are abundant and cheap, it is a theory which should be closely adhered to in practice.

EXCLUSIVE ARTIFICIAL MANURING.—There are examples of bold and, for the time at least, successful practice in depending almost exclusively upon commercial fertilizers to keep up the fertility of the soil, from which all its products are sold and carried off year after year. While in England, the present summer, the writer visited the scene of a remarkable example of this kind, a brief history of which may be profitably unfolded for suggestion and inquiry, if not for imitation.

Mr. John Prout, a London merchant, who had been bred a farmer in England, and had for years of his early life cultivated a farm in Canada, bought in 1861 two old and somewhat dilapidated farms in Hertfordshire, near Sawbridgeworth, about thirty miles northeast from the metropolis. They comprised 460 acres, the soil of which was a clay-loam, which had been worked only three or four inches in depth, was "clover-sick," and so unproductive that it was sold at the low price of £35 per acre. The neighbors were inclined to regard with derision the expectations of the city farmer, and freely prophesied a loss of patience or money, or both, and the abandonment of the effort. His first movement was the destruction of most of the hedge-rows, which divided the land into fifty-one irregular, small, and inconvenient parcels, thus saving, in the space occupied by hedges and ditches, 16 acres, at a cost of £311 for the improvement. A further gain of 2½ acres was made by filling a moat and ponds.

This area was divided into twelve fields. Exchanges of land were effected and lines straightened to economize the work of culture by the use of steam. A thorough system of tile-draining was then constructed, and an open ditch cut at one point to facilitate surface-drainage. These improvements brought the cost of the investment to £50, or $250, per acre. Being now ready for soil preparation, he bought a set of John Fowler & Co.'s steam-plowing tackle, at $6,000, and kept it at work much of the time, in 1862 and 1863, plowing 1,401 acres, sub-soiling 277, and scarifying 480; in all, 2,158 acres in those seasons. Mr. Prout says: "Plow often, plow deep, keep constantly plowing, was my motto for the first few years." The cost of this plowing, in comparison with horse-power, is deemed less than the same depth of pulverization by the old method, though more per acre than the shallow culture formerly practiced. Some

neighbors who doubted the economy of steam were offered a round price, $5 per acre, for similar work, but, after making experiments with an acre or two, declined to proceed even at that price. After the first four years little subsoiling was deemed necessary. The following statement shows the amount and kind of steam-plowing done in eleven years:

Years.	Sub-soiling. Acres.	Plowing. Acres.	Scarifying. Acres.	Total acres.
1862–'63	277	1,401	480	2,158
1864	191	409	264	864
1865	98	496	317	911
1866	.....	310	.....	310
1867	.....	637	174	811
1868	.....	321	257	578
1869	.....	386	116	502
1870	.....	281	277	558
1871	.....	296	130	426
1872	57	304	55	416
Total	.....	.....	.....	7,534

Wishing to avail himself of any possible aid from chemistry, Mr. Prout obtained from Dr. Voelcker analyses of three samples, representing fairly the peculiar constitution of the varieties of soil found on his property. They show no remarkable degree of fertility, although they possess abundance of aluminum and lime, important though common and inexpensive constituents of a good clay soil. An apparent excess of oxide of iron has not materially depressed the rate of yield. The following is the record of the chemist:

	No. 1.	No. 2.	No. 3.
Organic matter	4.75	4.46	5.49
Oxide of iron	4.80	4.29	7.91
Aluminum	5.29	4.90	2.06
Carbonate of lime	2.45	4.74	1.80
Sulphuric acid	.08	.01	.09
Phosphoric acid	.16	.12	.27
Magnesium	1.84	1.59	.80
Potash	.54	.72	.51
Soda	.08	traces.	.16
Insoluble matters	79.91	79.17	80.91
Total	100.00	100.00	100.0$_0$
Saved by washing	53.01	42.64	39.3$_8$

The accompanying plans represent the property as it was originally and as it appears at present. The proprietor furnishes the following explanations:

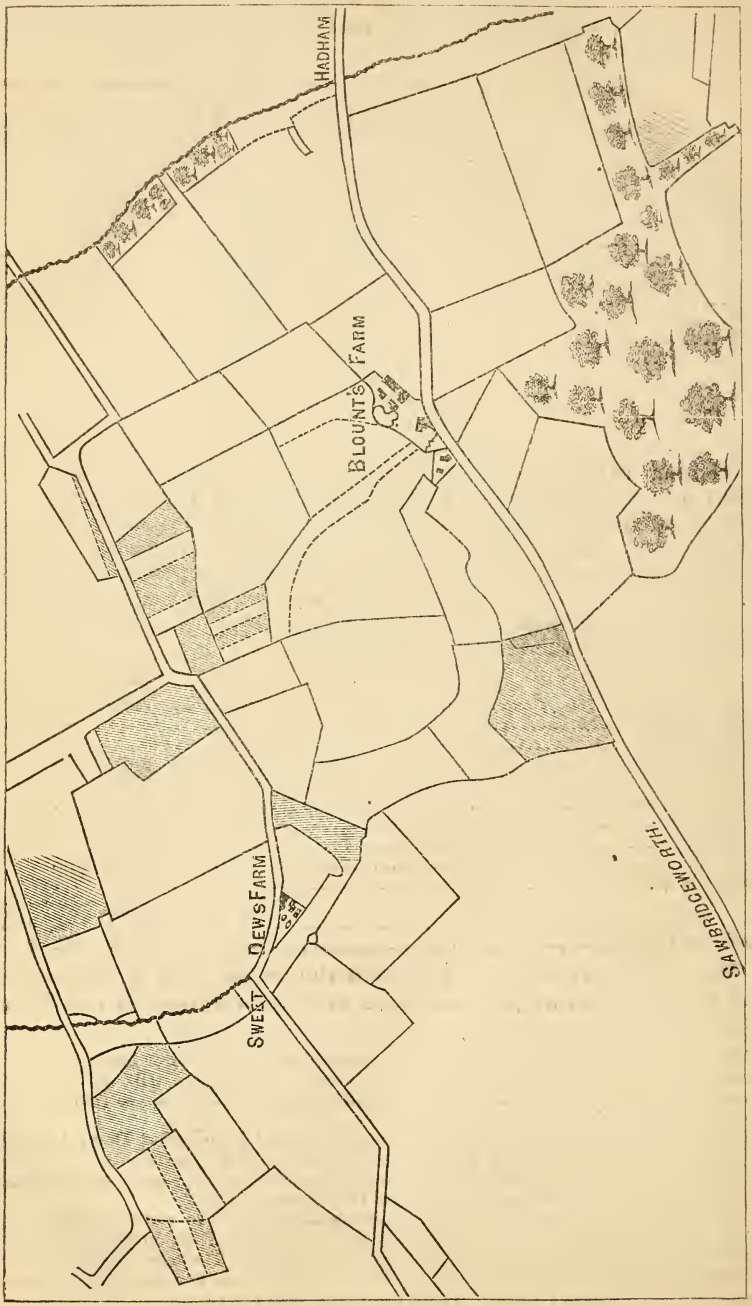
The parts shaded show the fields that were either exchanged or bought. It may be seen that some were most inconveniently situated. There are still, according to new plan, several pieces that it would be advisable to buy, but they are so tied up that they cannot be sold.

It may be noticed that the course of the public road from Sweet Dews to corner of private gravel-road has been changed and made straight by agreement with the Lord of the Manor, and undertaking to incur a great part of the expense of making the same myself. I gained half an acre of land by the improvement.

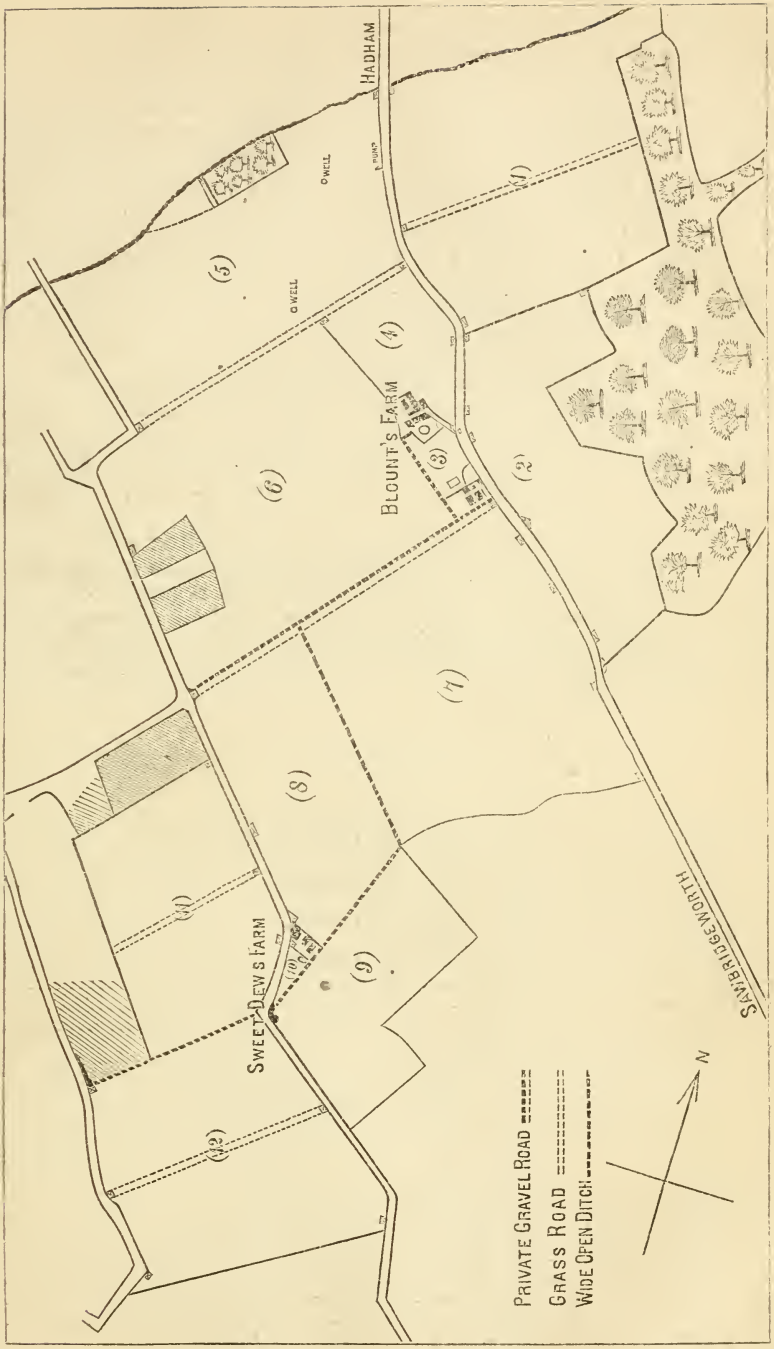
The thick dotted line running from Blount's farm-house to southwestern extremity of farm is a wide open ditch receiving the drainage of all fields on that side of farm.

In field No. 5, two wells of large size have been made. The one near the public road takes the water from a natural spring. There is a pump in the road to take this water for engines. The other well receives the drains from the surrounding fields.

There is one private gravel-road of 792 yards in length, marked as indicated on the margin of the plan. The wide open ditch runs alongside of this for some distance. There are four grass roads for the engine, marked as indicated on the margin.



PLAN OF FARMS BEFORE IMPROVEMENT.



PLAN OF ESTATE AS IMPROVED

This soil not only needed annual supplies of fertilizers, but this innovating system of farming to be inaugurated made requisite an unusual quantity and nice discriminations in kind. He proposed to sell his crops

"by auction as they stood upon the land, the purchaser reaping, carting, and thrashing, and taking away both corn and straw." This practice appears to have been accepted cautiously, and obviously with some doubt as to results. In the first year, 1862, he fattened 68 oxen, but deciding upon making a radical departure, he kept but one cow in 1863; in 1864 all crops were sold from the farm; in 1865 he so far relapsed as to fatten 14 bullocks, but has since utterly discarded horned-stock, as well as sheep and pigs, and reducing his stock of working horses from 10 to 6. The horse-hoeing, both for cultivation and destruction of weeds, which is always done once, sometimes twice, is performed by horse-power. During the era of deepening the soil, from three or four to eight or nine inches, with sub-soiling to fifteen, fertilizers were not applied very liberally. Since that time their annual cost has been 50 shillings, or $12.50 gold per acre for the entire farm area. The varieties used are super-phosphates, ground bone, guano, and nitrates, the two former mainly. The bone is ground very fine and mixed with super-phosphates, the whole mass moistened with water and allowed to remain for several months before using. The cost in detail has been as follows, (discarding fractions:) Purchased from 1861 to 1865 to the value of £640; in 1866, £434; 1867, £529; 1868, £1,473; 1869, £1,282; 1870, £1,551; 1871, £1,030.

As home-fertilizers were discarded, so also, finding wheat the most profitable crop, he ventured to disregard rotation more and more, until now the wheat area is more than 300 acres. He regards less than 40 bushels per acre a poor crop, and claims to have once obtained 65 bushels per acre. That whatever of system or want of system may be shown plainly, the alternation of crops actually practiced is here given in some of the larger fields:

CROSSFIELDS, (1.)

	Acres.		Acres.
1862. Spring-beans	31	Tares and oats	26
1863. Wheat	32	Oats	25
1864. Fallow	57		
1865. Wheat	49	Swedes	8
1866. Barley	57		
1867. Fallow	39	Peas	18
1868. Wheat	57		
1869. Sanfoin	49	Lucerne	8
1870. Sanfoin	49	Lucerne	8
1871. Sanfoin	49	Lucerne	8
1872. Wheat	34	Oats	23
1873. Wheat			

HOMEFIELD, (6.)

	Acres.		Acres.		Acres.
1862. Fallow	43	Potatoes	9		
1863. Wheat	32	Swedes	20		
1864. Barley	53	Tares	3		
1865. Barley	24	Fallow	28	Beans	4
1866. Barley	11	Wheat	45		
1867. Barley	39	Beans	13	Marigold and fallow	4
1868. Barley	12	Wheat	13	Beans	31
1869. Wheat	31	Oats	8	Beans	16
1870. Wheat	47	Barley	8		
1871. Barley	60				
1872. Wheat	60				
1873. Wheat	45				

WHITE MOOR, (7.)

	Acres.		Acres.		Acres.
1862. Oats	39	Seeds	17	Tares	10
1863. Fallow	49	Oats	17		
1864. Wheat	66				
1865. Oats	32	Fallow	28	Tares	6
1866. Wheat	66				
1867. Tares and fallow	33	Barley	33		
1868. Barley	33	Oats	33		
1869. W. beans	8	S. beans	16	Peas	22
1870. Wheat	66				
1871. Clover	33	Barley	33		
1872. Wheat	66				
1873. Wheat	66				

BEADLES, (12.)

	Acres.		Acres.
1862. Oats	32		
1863. Fallow	44		
1864. Wheat	22	Oats	29
1865. Clover	51		
1866. Wheat	51		
1867. Fallow	51		
1868. Wheat	51		
1869. Oats	51		
1870. Beans	46	Barley	5
1871. Wheat	51		
1872. Wheat	51		
1873. Wheat			

The following summary will show what crops have been cultivated and in what proportions, in acres :

Years.	Wheat.	Barley.	Oats.	Beans.	Peas.	Hay.	Roots.	Fallow.
1862		5	140	32		67	60	140
1863	137	30	12			18	25	152
1864	147	73	29			14	30	130
1865	72	65	50	54		52	20	131
1866	223	124	60			33	4	
1867	67	93	15	50	18	88	8	105
1868	170	60	66	72		58	4	14
1869	126	30	70	64	22	58	1	55
1870	208	57		102		66	2	
1871	149	93	36	53		68	39	
1872	340		22			12	56	
1873	305							

This increase in the area of wheat and the frequent repetition of the crop of late, is subjecting the capacity of the soil to a severe test, as the proprietor is well aware, which it has so far sustained wonderfully, the yield in 1872, an unfavorable year, being £11 0*s.* 5*d.* per acre. The average proceeds of sales per acre have been as follows, for the principal crops :

Years.	Wheat.	Barley.	Oats.	Winter beans.	Spring beans.	Peas.	All crops.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1864	9 2 11	7 10 8	6 15 9				8 8 0
1866	9 18 11	5 19 11	5 3 9				8 3 5
1868	14 14 2	13 2 10	10 0 0	7 14 8	6 6 8		12 0 2
1869	14 6 8	12 9 2	8 0 8	8 1 0	4 11 3	2 11 4	10 12 6
1870	15 3 10	10 9 3		7 18 9			12 6 6
1871	14 3 2	8 17 6		7 11 9			10 19 3
1872	11 0 5		7 12 2				10 16 0

The average receipts per acre, without any expense for harvesting, during the past six years, after the seed-bed had been deepened and put in proper condition, have ranged from $50 to $60 per acre. The largest yields were in 1868 and 1870, seasons very favorable to wheat production, especially the former. The average annual expenses are thus summed up by the proprietor:

Manual labor	£520	
Use of six horses	180	
Coal for two month's plowing	42	
Oil	5	
Wear and tear of machinery	77	
Depreciation 5 per cent. on £1,065	53	
Interest, 5 per cent. on £1,065	53	
Seed, (a large estimate)	250	
Artificial manures, at 50*s.* per acre	1,150	
		£2, 330
Rent, at £2 per acre	900	
Rates, taxes, and incidentals	220	1,120
Total yearly outlay		£3,450

The total proceeds of 1870 were equivalent to $26,000 in gold, and for a series of years have averaged $23,000, while the net profit, after laying aside $4,500 in lieu of rent, is about $6,000. This is 45 per cent. of the gross returns. The soil is in excellent tilth; its burden of wheat this summer, as seen in June, was uniform and of vigorous growth, and it is quite evident that with judicious cultivation more than average crops may yet be expected in the future. The ultimate result is a subject of conjecture with farmers, but the proprietor has no fears while he continues to obtain, from so little labor, not less than $50 per acre.

This example is given, not to commend the exclusive use of fertilizers, but to show the extraordinary results of deep cultivation, ample fertilization, and clean and thorough culture. There are in this country abundant resources for improvement of the soil without any extensive use of commercial fertilizers. There is required the constant exercise of a discriminating judgment in adapting means to ends. There are soils in so complete comminution and naturally possessing so fine drainage that deep cultivation is unnecessary, upon which frequent and light surface-manuring is indicated. Let our farmers first know intimately the characteristics of their soils, and then apply liberally, though economically, the means of securing large returns from them.

ENTOMOLOGICAL RECORD.

By Townend Glover, Entomologist.

Grape-vine Borers.—Mr. Fred. J. Kron, of Albemarle, North Carolina, in a letter to the Department, complains bitterly of the injury done to all varieties of grape-vines by the grape-vine borer, *Ægeria polistiformis*, described and figured in former reports of the Department, (1854, p. 80, and 1867, p. 72.) Mr. Kron states the insect has destroyed for him one hundred and seven varieties of grapes, derived from the Luxembourg, in Paris, including some five thousand vines; and adds, that there is but one variety that has, so far, defied its ravages, and that is the scuppernong, which flourishes in the midst of the devastation caused by the borer, all around it. Mr. Kron likewise states that he

found a phylloxera on Clinton root, and adds: "The insect has been noticed here for more than thirty years," but he does not complain of its doing much injury.

In connection with this last-named insect, so destructive to the grape-vines of France, Mr. Gaston Bazille, vice-president of the Agricultural Society of Hérault, publishes a remedy for the Phylloxera, which is translated and republished by Mr. Charles V. Riley, in the New York Tribune, as follows:

Three holes are made around the injured or infested vine, varying the depth according to the nature of the soil, but generally 2½ feet. These holes were made in the experiments reported, by means of a pointed iron bar and a heavy maul. A tube, with a funnel attached, is placed in the hole, two ounces of sulphuret of carbon are poured into the tube, which is then closed with a cork. The vapor of the sulphuret of carbon permeates the soil and impregnates all the roots of the vine. The gas engendered (though not the case with the liquid) is not fatal to the vine, but is sure death to the insects. Four ounces of the liquid has been found sufficient for an ordinary vine; but sprinkling on the surface must be carefully avoided, as it is in such a case very injurious to the vine, whereas a pound may be used in the soil without injury to the roots.

INSECT INJURIES.—The regular statistical correspondence of the Department shows very great injuries, especially to the cotton-crop. The potato-crop was considerably affected in the Middle and Northwestern States, and the grain-crops in the West.

Cotton-caterpillar, or army-worm, (Anomis xylinæ.)—This insect during the month of September extended its ravages into the more northern of the cotton-raising States. In Virginia it is noticed in two counties, Southampton and Princess Anne. In North Carolina it appeared for the first time in Beaufort, Stanly, and Chowan counties, where its ravages were quite serious. In Pitt it was very injurious to bottom-crops. It appeared as early as August 15 in Lenoir, and a month later in Sampson and Jones. It stripped the plants in Currituck, Perquimans, Bladen, and Stanly. In the last-named it was questioned whether it did any real damage; the stripping of the leaves, it is suggested, only expedited the opening of the bolls.

In South Carolina greater or less injuries are reported in Richland, Newberry, Chesterfield, Williamsburgh, Lexington, Orangeburgh, Laurens, and Edgefield counties. In Georgia they appeared in Upson, McDuffie, Lincoln, Dooly, Carroll, Liberty, Marion, Sampson, Butts, Richmond, Gwinnett, Twiggs, Baldwin, Calhoun, Madison, Wilkinson, Wilkes, Jackson, Coweta, and Whitfield. In Worth it took a third of the crop; in Muscogee the foliage, the top crop, and part of the middle crop were destroyed; in Clinch half the crop was ruined, and in Lee 20 per cent.; in Heard the ravages were worse than was ever before known. Florida reports very severe injuries in Taylor, Columbia, Suwannee, and Hamilton counties. In Alabama slight damage was inflicted in Geneva County, but more severe in Greene, Clarke, Chambers, Bibb, Calhoun, Hale, and Randolph. The caterpillar was mischievous in several counties of Mississippi, viz: Pike, Warren, Wilkinson, Rankin, Claiborne, Clarke, Jasper, Madison, Winston, Washington, and Holmes. In Lee the damages were mostly restricted to low, rich lands; in Leflore the crop was reduced 20 per cent. In Tuscaloosa the pests were effectually resisted by an early and persistent application of poisons. In Louisiana the presence of the worms, with greater or less injuries, is reported in Claiborne, Washington, Franklin, East Baton Rouge, West Feliciana, Concordia, Bossier, and Tensas. In Henderson County, Texas, caterpillars destroyed a fourth of the cotton, the fields being stripped bare of leaves. In Liberty they unaccountably stopped short of the entire destruction of the crop. Destructive visitations are reported in Nacog-

doches, Washington, Marion, Red River, Upshur, Shelby, and Cherokee. In Matagorda it was found that Paris green was successful, but in wet seasons the poison must be applied every time the worm hatches. In Arkansas three counties—Union, Columbia, and Clark—record the presence of these pests.

Boll-worms (*Heliothis armigera*) were very destructive in Chesterfield County, South Carolina, and are reported in Upson, McDuffie, Butts, Twiggs, Baldwin, and Heard Counties, Georgia. In Green and Hale Counties, Alabama, they were very mischievous, with a light visitation in Geneva. In Lee County, Mississippi, they were observed only on low, rich lands; they were troublesome in Pike and Wilkinson. They were very bad in Morehouse and Bossier parishes, Louisiana. In Titus County, Texas, they cut down the crop twenty per cent., and were more or less destructive in Rush, Upshur, Shelby, and Cherokee. They were also heard from in Clark County, Arkansas.

Grasshoppers, (*Caloptenus* sp.)—These insects were destructive in Bandera County, Texas, and in Uvalde, where their ravages were especially noticeable in wheat and oats. In Bradley County, Tennessee, they were bad in corn; in Hancock they destroyed the turnip-crops. They were observed in the growing wheat in Livingston County, Kentucky. In Medina County, Ohio, they injured tobacco; in Geauga and Mahoning, corn and oats; in Crawford they nearly ruined clover. They were abundant in Orange and Hamilton Counties, Indiana, and in Winnebago and Edwards Counties, Illinois. They were destructive on crops generally in Ramsey County, Minnesota, and especially affected Chinese sugar-cane in Martin. Iowa reports them only in Sioux County. In Missouri they shortened the cabbage and turnip crops of Clay County; in Montgomery and Franklin they were destructive in the growing wheat; in Pettis they destroyed fall pastures. They swept the buckwheat-crop in Osage County, Kansas, and were observed in the cereal crops in Smith County, as well as in Weld County, Colorado, and Lewis and Clark County, Montana.

Potato insects.—Both the Colorado beetle, (*Doryphora decem-lineata*,) and the common black potato-bug, (*Epicauta* (*atrata*) *pennsylvanica*,) have been heard from in the Middle and Western States. In Cambria County, Pennsylvania, the bugs followed the gathered crop into the cellar, and also fell upon the tomatoes. They swept late plantings in Armstrong, Indiana, and Butler Counties; the Early Rose and other early varieties matured before their advent. The same is reported of Fentress County, Tennessee; bugs are reported also in Dickson and in Tyler, Brooke, Fayette, and Pleasants Counties, West Virginia. They were encountered in Mahoning, Geauga, Erie, and Crawford Counties, Ohio. In Clinton County, Michigan, they were less troublesome than last year, while in Calhoun they were successfully resisted with Paris green. Their ravages were more or less serious in Boone County, Illinois, in Dunn County, Wisconsin, in Ramsey and Nicollet Counties, Minnesota, in Muscatine County, Iowa, in Washington County, Kansas, and in Madison County, Nebraska.

Chinch-bugs (*Micropus* (*Rhyparochromus*) *leucopterus*) are reported in Adams County, Ohio, and in Ripley and Scott Counties, Indiana, where they ravaged wheat, oats, and corn. They were also virulent in Clinton, Edwards, Washington, Pope, and Boone Counties, Illinois, and in Polk, Lawrence, Pulaski, and Phelps Counties, Missouri. In Labette County, Kansas, it is estimated that but for these insects the enormous wheat-crop would have reached another quarter million of bushels.

They were very injurious also in Montgomery, Cherokee, and Wilson. In the last-named county bottom crops generally escaped.

Grub-worms (*Lachnosterna* sp.) damaged grass and corn crops in Highland County, Virginia, and in Mercer and Berkeley Counties, West Virginia.

Fruit-caterpillars (*Clisiocampa*) are reported in Floyd County, Indiana.

Cut-worms (*Agrotis* sp.) were numerous and destructive in Saint Mary's County, Maryland, and in Grundy County, Tennessee.

Tobacco-worms, probably *Macrosila carolina*, were troublesome in Montgomery County, Tennessee, and in Dallas County, Missouri.

Bud-worms.—Insects designated by this unmeaning term were destructive in the corn-crops of Uvalde County, Texas, and Scott County, Arkansas. Several species of destructive insects are known by this name in different parts of the country.

Wheat-midge (*Diplosis tritici*) was observed in Mercer County, West Virginia, and in Ripley County, Indiana.

Hessian fly, (*Cecidomyia destructor*,) Edwards County, Illinois.

Black weevil (*Sitophilus oryzæ*) troubled the wheat-crops in Knox County, Tennessee.

In Grundy County, Tennessee, the grape-crop was injured by several insects. In Sevier County a remarkable absence of birds is mentioned and a consequent prevalence of various destructive insects; red and black oaks were stripped of their foliage, the red oak suffering more than the black. In Floyd County, Indiana, innumerable varieties of worms infested forest trees, the walnut being especially affected.

CHEMICAL MEMORANDA.

By William McMurtrie, Chemist.

Greensand marl.—During the month of April of the present year this Department received from Mr. E. A. Vannort, Hanesville, Kent County, Maryland, a sample of greensand marl for analysis, which has the following composition:

Moisture	3.175
Organic matter	4.475
Silica	48.481
Protoxide of iron	6.430
Peroxide of iron	13.901
Alumina	10.9944
Phosphoric acid	0.0086
Lime	2.116
Magnesia	3.1638
Potassa	6.767
Soda	0.805
	100.3168

This compares very favorably with marls of like character from the extensive deposits of New Jersey and other localities.

Opium from North Carolina.—Many experiments have been tried with varied success in the way of cultivation of poppy in different parts of our country, and this Department has lately received a communication from Mr. F. J. Kron on this subject, accompanied with a speci-

men of opium produced near Albemarle, Stanley County, North Carolina, which presented a very fair appearance. The following is Mr. Kron's communication:

Some four years ago seed of the opium-poppy, originally derived from Turkey, was obtained from the Department of Agriculture and has been experimented with here ever since. The results have demonstrated that both our climate and our soil are well adapted to the production of either poppy-seed for the manufacture of poppy oil, (*huile d'oliette* of the French,) or of opium as good as can be made anywhere. The results have ever shown that the plant here is decidedly hardy; contrary to what is stated concerning it in the report of our consular agent at Smyrna, in 1869, where it is represented as being tender to frost. Here where the temperature some years falls below zero, the seed sown, as in Asia Minor, in the fall, vegetates freely and passes the winter safely, to present, in the spring, plants of remarkable vigor, provided with heads which are numerous and large, far superior to the plants raised from seed sown in the spring. The yield, however, has not thus far been abundant enough to make the culture remunerative. An idea may be formed in that respect from the fact that only 216 grains of opium were obtained from 220 heads. But the quality of the opium produced is something superior to anything we can obtain in commerce. It is all opium; none of the filth and seed which often constitute three-fifths of the bulk of the opium sent to us here. In medicinal properties it will not disappoint the practitioner, but present him with all that is expected from the greatest of boons of Providence to suffering humanity.

The sample of opium sent was free from foreign matters; was well dried, and was quite hard and resinous. When pulverized and subjected to analysis, the air-dried product yielded 5.01 per cent. of pure morphine. This proportion of morphine is rather low; yet it is nearly equal to that of many varieties of opium from India. In order that this result may be compared with results of analyses of opium from other localities, we give below a table of results obtained by different analysts.

Locality.	Percentage of morphine.	Analyst.
Smyrna	12 to 14	Guibourt.
Egyptian (dry)	5.8 to 6.6	"
" (undried)	6 to 7	Merck.
East Indian	5.3 to 7.7	Guibourt.
Persian	11.37	"
Algerian (white poppies)	1.52 to 8.57	Aubergier.
" (red poppies)	10.37 to 11.23	"
" (purple poppies)	14.71 to 17.83	"
Erfurt (blue poppies)	16.6 to 20	Blitz.
" (white poppies)	6.85	"
French (dried), maximum	22.9	Guibourt.
" " minimum	14.8	"
Vermont (Addison County)	15.75	.....
California (Marin County)	5.75	.....

In the determination of morphine in the North Carolina specimen, the method of Proctor gave the most satisfactory results; 20 grammes of the dry pulverized opium were rubbed with repeated portions of water until finely divided, and allowed to digest twelve hours in about six times their weight of water, when the whole was removed to a filter and washed with water until the washings were completely colorless and tasteless, the fluids thoroughly mixed and divided into portions representing 10 grammes each for duplicate determination.

The solution thus obtained is treated with solution of subacetate of lead as long as precipitate forms, the precipitate being separated by filtration and well washed. To the filtrate add dilute sulphuric acid, drop by

drop, to separate the excess of lead as sulphate, filter and evaporate the fluid to small bulk at a low temperature, mix with an equal volume of alcohol, filter, and treat the filtrate with 15 to 20 grammes of ammonia sp. gr .960, mixed with an equal volume of alcohol. The alcoholic solution of ammonia is divided into two portions, which are added half an hour apart, after which the fluid is allowed to stand twenty-four hours. The morphine, which separates in distinct crystals, is collected on a weighted filter, washed with dilute alcohol and freed from a small quantity of narcotine which may be present by washing with ether. The remaining crystals of morphine are carefully dried and weighed.

FLESH-MEAL. — In our monthly report for July, under the head "Animal farina," we published a description of the process of manufacture of extract of beef at Fray-Bentos, Uraguay, as well as of the refuse consequent upon it, together with experiments upon the use of the latter as feed for cattle. In an article published in a late number of "Die Landwirthschaftlichen Versuchs-stationen," (Bd. XVI, No. 2 u 3,) Dr Pott calls this residue *flesh-meal*, which seems more appropriate than that given in the previous article. He also furnishes results of complete analyses of the product, which are as follows :

100 parts dry flesh-meal contain—

	Per cent.
Water	10.48
Dry substance	89.52
	100.00

100 parts flesh-meal dried at 100° to 110° C. contain—
Ash, (1) 5.46 per cent.; (2) 5.723 per cent.: (3) 5.58 per cent.
Fat, 13.88 per cent.
Nitrogen, (1) 13.27.

100 parts air-dried flesh-meal contain—

	Per cent.
Ash	4.88
Fat	12.42
Nitrogen	12.01

Collection of above data shows the composition of air-dried flesh-meal to be—

	Per cent.
Water	10.48
Ash	4.88
Protein substance*	72.06
Fat	12.42
	99.84

A determination of the soluble and insoluble mineral constituents gave the following results:

100 parts of substance dried at 100° to 110° C. contain—

Constituents soluble in water 6.18 per cent. containing	0.64	soluble mineral salts.
	5.54	organic constituents.
	6.18	
Insoluble residue, 93.82 per cent. containing	4.22	per cent. mineral salts.
	89.60	pr cent. organic constituents.
	93.82	

* Found by multiplying amount of nitrogen by 6.

Analysis of the ash.

	In 100 parts crude ash.	Calculated for pure ash.	Calculated for 100 parts dry flesh-meal.
	Per cent.	*Per cent.*	*Per cent.*
Potash	1.990	5.499	0.11
Soda	1.326	3.664	0.07
Lime	8.785	24.049	0.48
Magnesia	1.160	3.205	0.06
Peroxide of iron	5.801	16.015	0.32
Phosphoric acid	15.333	42.376	0.85
Sulphuric acid	0.818	2.426	0.05
Silica	0.663	1.835	0.04
Chlorine	0.307	0.931	0.02
		100.000	2.00
Sand	53.328		
	92.511		
Carbonic acid*	7.489		
	100.000		

For comparison of results, analyses of ash, of flesh-meal, and that of fresh beef are given. All these analyses are calculated for pure ash. The analyses of fresh beef were made, one by Staffel and the other by Stölzel:

	Beef. Staffel.	Beef. Stölzel.	Flesh-meal. Pott.
Crude ash	.....	8.30	5.46
Pure ash	.....	7.60	2.00
Potassa	46.09	48.91	5.499
Soda	.....	.....	3.664
Lime	1.88	0.91	24.049
Magnesia	3.60	2.30	3.205
Peroxide of iron	1.07	0.82	16.015
Phosphoric acid	37.35	36.08	42.376
Sulphuric acid	3.66	3.84	2.426
Silica	2.25	2.47	1.835
Chlorine	5.28	6.04	0.931

DISEASE OF BEECH TREES.—A curious phenomenon has appeared in the beech forests of Westphalia, in the shape of a white coating, principally on the south side of the trees, caused by an exudation of a kind of wax from incisions made in the bark of the trees by a small insect which has been examined and described by Dr. H. Landois, professor of zoology in Münster, as being six-legged, 0.14 millimetre in length, and 0.086 millimetre in breadth. The color of the insect is lemon-yellow.† The wax was examined and analyzed by Dr. I König, who described it as follows:

Under the microscope it appears fine threads; it dissolves in ether and melts at 78°–80° C. This latter property leaves no doubt that the white coating is nothing

* By difference. † The name of the insect is *Chermes fagi*.

but wax. Its elementary composition compares with beeswax and Chinese wax—the latter produced by puncture of certain species of coccus—as follows:

	New wax.	Beeswax.	Chinese wax.
Melting point	78°-80°	60°-63°	82°
Carbon	87.39%	87.80%	82.31%
Hydrogen	13.58%	12.67%	13.57%
Oxygen	5.03%	5.53%	4.12%

By saponifying with an alcoholic solution of potash a portion of the wax remains unattacked. This is separated from the solution by filtration through asbestos. The solution agitated with ether yields a body which melts at 49°-51°5 C.; solidifies at 50°-48° C., and has the following elementary composition:

Carbon	76.21%
Hydrogen	12.24%

From the potash solution is precipitated by chlorhydric acid, an acid which melts at 51° to 53° C., solidifies at 50°-59° C., and has the following elementary composition:

Carbon	77.88%
Hydrogen	12.31%

The residue from saponification, which melts at 140°-145° C., seems to contain a higher proportion of carbon than the original wax, and seems to consist of several compounds. The scarcity of material prevented further investigation, but I hope to return to it again.

ATMOSPHERIC NITROGEN IN VEGETATION.—This has for some time been the subject of investigations by P. P. Deherain, and he has lately determined, from experiments with glucose and caustic soda, through which were passed currents of warm air, that considerable quantities of nitrogen were absorbed. When cold air was transmitted through this mixture negative results were in the majority of cases obtained; but on employment of nitrogen gas, part of it was absorbed. Mixtures of saw-dust, with or without slaked lime, produced results which were similar, but less decided. These facts will have an important bearing upon the value of combined nitrogen in fertilizers.

BOTANICAL NOTES.

BY DR. GEO. VASEY, BOTANIST.

A POISONOUS CALIFORNIA PLANT.—Mr. O. B. Ormsby, of Bakersfield, California, has written to this Department respecting a plant known there as loco, which, he says, is quite destructive to stock, especially horses. He says:

It prevails quite abundantly over an extent of one hundred and fifty square miles in this valley, and, I am informed, is found in other valleys of the State, and also in Arizona. This year the army-worm and a minute insect which destroys the seeds have killed a great deal of it, but, if not molested, it will soon flourish to as great an extent as ever. I think very few, if any, animals eat the loco at first from choice; but, as it resists the drought until other feed is scarce, they are at first starved to it, and, after eating it a short time, appear to prefer it to anything else. Cows are poisoned by it as well as horses, but it takes more of it to affect them. It is also said to poison sheep. As I have seen its action on the horse, the first symptom of the poisoning apparently is hallucination. When led or ridden up to some little obstruction such as a rail or bar lying in the road he stops short, and, if urged, leaps as though it were four

feet high. Next, he is seized with fits of mania in which he is quite uncontrollable, and sometimes dangerous. He rears, sometimes even falling backward, runs or gives several successive leaps forward, and generally falls. His eyes are rolled upward until only the white can be seen, which is strongly injected, and, as he sees nothing, is as apt to leap against a wall or a man as in any other direction. Anything which excites him appears to induce the fits, which, I think, are more apt to occur in crossing water than elsewhere, and the animal sometimes falls so exhausted as to drown in water not over two feet deep. He loses flesh from the first, and sometimes presents the appearance of a walking skeleton. In the next and last stage, he only goes from the "loco" to water and back; his gait is feeble and uncertain; his eyes are sunken, and have a flat, glassy look, and his coat is rough and lusterless. In general the animal appears to perish from starvation and constant excitement of the nervous system, but sometimes appears to suffer acute pain, causing him to expend his strength in running wildly from place to place, pawing, and rolling, until he falls and dies in a few minutes.

From a few specimens sent we determine the plant to be a species of *Astragalus*, somewhat similar to lucerne in its appearance and mode of growth. We invite further information from those acquainted with the plant and with its poisonous qualities.

ORCHARD-GRASS.—Mr. William E. McClure, of Waukesha County, Wisconsin, writes respecting a grass of which he desires to know the name. He says that he obtained a small head two years ago from an old Russian. As the produce of that head he had three quarts of seed which he sowed last June. When ripe, it stands from 4 to 5 feet high, and it is ripe about the middle of June. It is very early in the spring, being 12 to 15 inches high when June grass is but 1 inch. It grows in large bunches as timothy does when sowed thin, but, unlike timothy, it keeps green all through the summer, and stood 1 foot high at the date of his writing, September 29. It stands the winter without injury. The grass is *Dactylis glomerata* or the orchard-grass, so called from its adaptation to growing in the shade. Hon. J. S. Gould says of it:

> We have seen it growing in great luxuriance in dense old New England orchards, where no other grass, except *Poa trivialis*, (rough-stalked meadow-grass,) would grow at all. It affords a good bite earlier in the spring than any other grass, except the meadow foxtail. It affords a very great amount of aftermath, and it continues to send out root-leaves until very late in the autumn.

GARRYA ELLIPTICA.—In the "Garden," (London, England,) of August 9, is an interesting account of the *Garrya elliptica* as a hardy evergreen garden-shrub, now being cultivated in England. It is a native of California and Oregon, and was first raised from seeds sent from California by Mr. Douglass in 1828. These proved to be all male plants. The first female plants known in a living state in Europe were sent by Hedwig in 1848, and in 1850 they flowered and fruited, and from their seeds plants of both sexes were afterwards raised. "The bush grows from 8 to 10 feet high, and has a rather dense and spreading head, furnished with numerous slender shoots, which are downy when young but quite smooth when fully matured. It is easily increased, either by layers or by means of cuttings of the half-ripened shoots, and grows freely in any good garden-soil. The leaves are opposite, somewhat oblong or elliptical, with a small acute point, rather wavy when young, thick and leathery in texture, persistent, of a dark shining green above, and hoary beneath. The fruit, which is produced in compact catkins, is a berried pericarp, containing two hard, bony seeds, as large as a moderate-sized black currant, and of nearly the same color."

This is one instance of many in which plants of this country receive more attention as to cultivation and come to be better known abroad than at home. There are several other species of Garrya in Arizona and Mexico which have not yet been introduced into cultivation. The

journal above quoted speaks very approvingly of several species of Collinsia, delicate annual plants of England, which have been introduced into cultivation by Mr. Thompson, of England, who has shown a rare enthusiasm in obtaining from this country and introducing into cultivation botanical novelties. One of these is a new variety of *Centaurea Americana*, with flowers of a deep magenta-purple, which is considered quite an acquisition to the flower-garden. The variety was obtained in Texas in 1872, by Mr. E. Hall, of Illinois, who spent a season there in making botanical collections. Still another acquisition from our country is the *Pentstemon Palmeri*, obtained a few years ago, by Dr. Palmer, in Arizona, which is stated to be a very distinct and novel form of this interesting genus. It grows four feet high or more, the stem terminated by a noble panicle of pale lilac flowers, which are an inch and a half long, and are said to be very ornamental.

INFLUENCE OF THE MOON ON VEGETATION.—M. Carbonnier, a member of the Acclimatization Society, of Paris, has published the result of some observations on the effect of the moon upon vegetation, which tend to confirm the popular notions on this subject :

It is well known that glass aquariums, placed in the light, soon become invaded by algoid growths, which in some cases, after a time, pervade the whole of the interior. M. Carbonnier, requiring to keep a number of these reservoirs perfectly clean, found that, while in some cases no vegetation appeared for ten days, or even more, in others it was completely developed in two or three days. Watching these phenomena with care for some time, he came to the conviction that the maximum intensity of this vegetation corresponded with the time of the full moon ; he found that the increase diminished during the other phases of the moon until it was imperceptible ; and, while at full moon the aquariums had to be cleaned every day, after that period twice a week proved sufficient. The water that he used for his aquariums is that of the canal of the Ourcq, (too impure for culinary purposes,) which is open for a long distance, and is remarkable for the number of microscopic germs it contains, very variable in quantity, but considerable at the time of the full moon.

As aquariums are now in quite general use, many opportunities are afforded to repeat these observations. It would be curious if, after so long opposing the popular traditions on this subject, modern science should at last confirm them and be able to explain them. The experiments of M. Carbonnier, so far as reported, seem to be wanting in precision, and need to be confirmed by other observers, with careful attention to the source and kind of the water-supply.

MULTIPLYING PLANTS BY DIVISION.—All the prominent operations of horticulture, as grafting, budding, striking, cutting, &c., are based upon the fact that every bud of a plant has an independent vitality, and with suitable treatment and under proper conditions is capable of continued growth when removed from the parent plant. Not only is this true of buds already formed, but portions of a plant, such as a leaf or a root, which do not normally produce buds, can be made to develop them under certain circumstances.

Many curious experiments have been made at various times, showing that this power of reproduction by the development of new organs or parts is possessed in some degree by almost every portion of the plant.

Recently M. Van Tieghem has communicated to the *Annales des Sciences Naturelles* the results of some experiments made by him on the embryos of germinating plants, which show that their several parts may be removed and divided, and still each of the separated parts can reproduce all the other parts necessary to complete the perfect plant. Thus, the germinating plant or seed is composed of the cotyledons or seed-leaves, the caulicle or young stem, and the radicle or young root.

It is shown by M. Van Tieghem that either of these organs may be removed, and have the power to develop the remaining parts, so as to become a perfect plant.

He has gone further than this, and shown that each of these organs may be subdivided into several separate parts, and each subdivision will grow and reproduce the organs wanting to complete the plant. Thus, he divided the radicle lengthwise into two parts; each part grew and developed the remaining organs. The caulicle or young stem was likewise divided in the same manner and with the same result. Also each part of the cotyledons or seed-leaves, when cut into segments, would develop roots and buds and produce perfect plants. For example, the two cotyledons of a germinating sun-flower were divided each into four parts, and each part grew, making eight perfect plants.

"In a word, any fragment will grow independently of the rest, and to a degree proportionate to the quantity of food stored up within itself at the time of its separation."

M. Van Tieghem continued his experiments farther with a view of ascertaining the office performed by the albumen of seeds. The embryo of a Marvel of Peru was removed from the albumen in which it was imbedded. Germination took place, and growth proceeded for a time, but was arrested before the production of the plumule or first bud. Thus, it appeared that a supply of prepared food, such as the albumen furnishes, was necessary to the formation of the plumule.

The next experiments were to ascertain if it was indispensable that this nourishment should be contained within vegetable cells. For this purpose the albumen was removed from the seed, pulverized, and made into a pulp, into which the embryo was placed. An absorption of this nutritive matter took place by the embryo, but not to the same extent as under normal circumstances. The experimenter next tried the substitution of artificial food in place of the natural supply. An artificial albumen of potato-starch was made into a paste and the embryos were imbedded therein. Germination occurred with the absorption of starch grains in the same manner as in normal conditions, but only to a limited extent, as this artificial food was wanting in many of the constituents contained in the natural albumen of the plant under experiment, as oily materials, various salts, and nitrogenous matters, "hence, M. Van Tieghem, in pursuing his experiments, further added to the potato-starch a saline solution containing nitrates and phosphates in various proportions. Under these conditions, germination progressed further than when starch alone was employed. When the albumen from the seeds of buckwheat was mashed up and used as a pabulum for the denuded embryo, the germination also proceeded favorably. Other experiments of like character with flour of wheat were not so successful, by reason of the rapid invasion of moulds and other microscopic organisms which quickly vitiated the trials."

These experiments may have little practical value, but they are at least of great physiological interest. They seem to show that, to some extent, the vegetable cells even of the higher plants retain somewhat the independent vitality possessed by the lowest forms of vegetable life.

AGRICULTURE IN PERSIA.

The recent visit of the Shah of Persia to the principal countries of Europe, whatever may have been its political significance, is regarded as indicative of progress in that ancient and conservative kingdom, and has attracted much attention to the actual condition of Persia, which, renowned as it is in history, is but little known to the world at large in respect to the details of common life. We have heard—and the story has been repeated within a few years—of terrible famine in that country, and the consequent starvation and pestilence, by which its inhabitants have perished by thousands. These famines have been attributed to defective agriculture, in a country susceptible of high and profitable cultivation, and capable even of producing a large surplus of the staff of life, and also to a great want of water, where irrigation for farming purposes is at all times necessary. Persia is known to have carried the art of irrigation to great perfection centuries ago, and her practices in that respect are supposed to have originated the religious reverence so extensively paid to rivers and fountains. The practice of penetrating the mountains in search of springs, and conveying the water when found by subterranean tunnels, even to great distances, for purposes of irrigation, originated in Persia, and is, perhaps, still peculiar to that country. It is probable, however, that the ancient and effective system of irrigation in Persia has not kept pace with the demands of an increasing population; but to what extent it may have been diminished we have no means of knowing. Nor is it known how far agriculture has deteriorated or suffered from neglect in a country which at one time, even under primitive methods of tillage, exhibited an exuberant fertility. Neither is it certain that the famines in question, which were of a local character, are justly attributable to the causes mentioned. Others have ascribed all the evils which Persia has suffered to bad government. The visit of the Shah to the domains of more successful rulers can hardly fail of an ameliorating influence upon his own country and people. In an article in the annual report of this Department for 1871 the want of manufactures, or of a sufficient variety of skilled industry to keep agriculture alive, is regarded as furnishing a complete explanation of the great calamity which befell Persia, or a portion of it, a few years ago. The following translation from a recent French publication contains some statements respecting the present habits of the people and their methods of agriculture which seem to confirm the latter view:

The Persians are the most remarkable people of the great race who, sharing the table-land of Asia, have conquered and occupied the East. History has handed down to us the titles of their origin and grandeur. Their civilization goes back to a remote epoch, and was superior to ours, as the Persians had long been acquainted with agriculture and a settled life while our ancestors were yet nomads. Their country was beautified by smiling gardens that were the object of the admiration and envy of other nations, who have consecrated their memory by the name that designated the birthplace of the first human family; *firdaus* (Greek, paradeisos) is a Persian word signifying garden. An ancient province of this kingdom is still called the "land of roses." (Gulistan.)

The agriculture of the Persians is peculiar. From the most ancient antiquity this people have carried the science of irrigation to great perfection. Herodotus relates that they had a great veneration for water-courses, and the care which they bestowed on their springs and fountains has been deemed worthy of imitation by other nations.

The soil of Persia is generally dry, and water is obtained by artificial methods, such as the digging of wells and the raising of dikes. The water flowing from the mountains after the melting of the snow is received into canals and carried into the fields.

These canals are, with rivers and brooks, subject to the inspection of a public officer called the Prince of Water, and the water is distributed to cultivators, according to their wants, at fixed rates of payment.

In the mountain gorges, where the form of the land permits, the snow and rain waters are arrested by thick walls and are collected in large basins, their level being raised so that they may overflow the soil. Chardin, whose "voyage" is, perhaps, the most faithful and interesting that has been published, says: "There are four kinds of water in Persia—the rivers and springs above land, and subterraneous wells and conduits called *cariges*. They dig at the foot of mountains for water, and when a spring is discovered it is conducted by subterraneous canals sometimes a distance of eight or ten leagues."

Besides irrigation the Persians employ the system of stercoration, so much esteemed by the Romans. They use the litter of horses to manure the land. They litter the horses with their own dung, dried and powdered, of which they make a soft, firmly united bed of two or three inches in thickness. Every morning the excrements of these animals are dried in the court-yard, and in the evening are reduced to powder by a little beating. As they lie all day in the sun they lose their odor, so that the stables do not smell badly. Another means of preventing this odor is also used, which is, to mingle salt with the barley that the horses eat.

The countrymen carefully collect the impurities of the city streets and deposit them in bags, with which they load their asses. There are no public sewers in Persia. Each house has its private sewer, a hole about a foot deep, which is generally dug by the side of the dwelling. These are never offensive, as the dryness of the air dissipates the bad odor. The occupants of houses which have no sewer outside arrange with some trustworthy countryman to take the sewage by the year, charging him a sort of rentage, which is commonly paid by the year, for the privilege of access to the house. These scavengers may be seen with their spades cleaning the ditches, and loading their asses or mules with their contents. They attend to their duties with assiduity, visiting these places weekly. Whenever a warm fertilizer is required, the excrements of men and pigeons, together with melons and cucumbers, are smoked. The countrymen say that there is a notable difference in the fruits raised in those beds in which the manure is obtained from houses whose occupants eat much flesh, or drink the wines of Europe. This fertilizer is not laid upon the land without preparation. It is carried into the country, and there dried by the application of heat. It is then thrown into large ditches, which, when half full, are filled up with earth. Here, for two years, it is exposed to the action of snows and rains that knead the whole mass together. At the end of this time the fertilizer is ready for use.

By means of this culture the soil of Persia, though sandy, becomes firm and clayey, and capable of receiving any kind of seed, producing two crops of barley annually. The land in the neighborhood of large cities is never at rest; for when one crop is gathered, another is planted.

Water is necessary to the fertilization of the soil, and a fruitful valley may be made a desert tract by the destruction of one of the expensive canals. Those parts of the country that are well cultivated indicate the prosperity to which the kingdom may attain.

Throughout Persia there are great plains, which during the winter season are covered with water, while the bare, salty soil is parched by the summer sun. These vast surfaces, if properly watered, might be rendered suitable for cultivation.

The pastures of Persia afford food for numerous flocks of sheep that are owned by some of the itinerant tribes of the country, who do nothing for the amelioration of their species. Some of these sheep have tails weighing more than thirty pounds, which are a great burden to the animals. In certain places the sheep are assisted to carry this burden by a little machine with two wheels.

Kurdistan, a province possessed jointly by Turkey and Persia, exports many sheep and goats. It is estimated that fifteen hundred thousand of these animals are sent yearly to Constantinople. A greater number are exported, but the length and difficulties of the journey cause many to perish. It is a journey of sixteen or seventeen months from Van to the Bosphorus. The Ottoman army which fought the French in Egypt was almost wholly fed by the herds of Kurdistan.

The provices of Northern Persia are very humid. They are covered with snow in winter, and watered in autumn, by abundant rains. The soil is rich and fertile, and many of the trees of Europe not only grow in it, but attain a great height. South of the mountains, on the contrary, the air is very dry. Light clouds float eastwardly; without being resolved to rain. The soil in this section is therefore sandy and arid. No dew covers the plants, and no mist hovers over the highest mountain peaks.

The rivers of Persia that flow into the Caspian Sea are very rapid. But those that water the plains of Ispahan, Kashan, and Shiras, have a more moderate current, and diminish in width as they become distant from their sources. Few run into the ocean; most of them being lost in the sandy plains. This progressive diminution favors their system of trenching.

The cultivated land, covered with crops of wheat and rice, and fruit-trees, presents a verdure more agreeable as it contrasts with the sandy deserts. Oranges and lemons grow abundantly in the Mazanderan. A particular kind of sugar-cane is cultivated here, but the extract, which is yellow and tastes like molasses, is only consumed by the lower classes, as the Persians are ignorant of the art of refining it.

From the midst of these immense orchards, summer-houses, mosques, and palaces arise. If the labors of the cultivator are not hindered by unfortunate circumstances, he soon becomes wealthy. When he has acquired a fortune, he changes neither his condition nor residence. He improves his dwelling, and enjoys the luxuries of his fields, as does the resident of the metropolis. For this reason, in the most mediocre villages of Persia, may be seen the finest and most beautiful residences that contain all the superfluities of opulence.

FACTS FROM VARIOUS SOURCES.

A NEW AGRICULTURAL FIELD.—Mr. E. M. Gibson, Indian agent, stationed at Neah Bay, Washington Territory, reports the result of experiments with seeds forwarded to him by this Department. The locality is in the extreme northwest of the Territory, between 48° and 49° of north latitude. The farm on which the seeds were planted is on a peninsula which extends into the Pacific and forms Cape Flattery, at the mouth of the straits of Juan de Fuca, being the most northwesterly farm in the United States. Mr. Gibson describes the point as one over which heavy fogs hang the greater portion of the summer, and at which there is perhaps more annual rain-fall than at any other place in the country. The nearest settlement is about sixty miles distant. He represents that the small portion of land in that section which is susceptible of cultivation is very productive; and as much the larger part of the population of the Territory is non-productive, being engaged in lumbering, farming is exceedingly profitable. Among the seeds tried were different varieties of cabbage, kale, Brussels sprouts, lettuce, radish, carrot, cauliflower, beet, onion, ruta-baga, and parsnip, all of which produced as well as he had ever known the same kinds to in any climate. Of all the varieties of peas received, (except dwarf,) the vines grew to the height of five feet, and yielded in abundance peas of the largest size and best quality. When the cabbages had grown very large the heads burst open, and some of them continued to grow through the winter, as did the onions, parsnips, and beets. Celery was growing finely, and promises to do well. On the other hand, corn, beans, tomatoes, and cucumbers scarcely grew at all, and did not produce anything.

IMPORTATION OF SILKS.—The monthly statistics of the Silk Association of America show that the value of manufactures of silk imported at New York, in September, 1873, was $3,404,067, against $3,607,412 in the corresponding month in 1872, $4,254,286 in 1871, and $3,900,726 in 1870. The total value of manufactures of silk imported at New York during the first nine months of 1873 was $21,277,727, against $28,987,343, during the corresponding months in 1872, $27,934,004 in 1871, and $20,219,064 in 1870.

The above values represent only the foreign cost in gold, the costs of freight and duties not being included.

RECIPE FOR FOOT-ROT AND SCAB.—Mr. John Hill, of Henrico County, Virginia, recommends the following as very reliable remedies for the above-named diseases of sheep:

For foot-root.—First cleanse the foot, then pare away the portions of the hoof covering the diseased part, and apply the following to all the flesh affected by fungus

growth: Mix gunpowder and blue vitriol in equal quantities, and to seven parts of this mixture add one part of verdigris and sufficient sweet-oil to make a salve. Apply this salve twice a week, keeping the sheep dry-footed for an hour or so after each application.

For scab.—Make a strong lye from hard-wood ashes, as oak or hickory; add to each gallon of lye one pound of strong tobacco; simmer over a moderate fire for about an hour, then strain and add to each gallon of the liquid a quarter of a pound of the flour of brimstone, the same quantity of hellebore powder, a half pint of the spirits of turpentine, and a large tablespoonful of carbolic acid. The mixture is then fit for use as a "dip," (for which the best time is after shearing) or otherwise. It should be well stirred before using, and kept from the eyes and mouth. It is well, before applying, to scratch the affected parts with a curry-comb, or something similar. If the weather is wet the sheep should be kept under cover for a short time after the application. The remedy should be applied once or twice a week.

Irrigation in California.—It is reported that farmers in Merced County, California, have associated for the purpose of constructing a canal for irrigation, leading out of Merced River. The estimated cost is $6,000, of which $3,000 have already been subscribed. The annual tax to those who use it is to be $1 per acre for each acre irrigated.

Yield and price of grain.—Mr. H. S. Hart, secretary of the Agricultural Society in Fillmore County, Minnesota, reports that some fields of wheat in that county yielded as high as 32 bushels per acre, while the average was about 22 bushels. Most of the crop averages 60 pounds to the measured bushel as it comes from the machine, and the best quality has been selling at 85 cents per bushel. He reports the oat-crop in that section good, and the barley-crop very good, though injured by being left too long in the shock in consequence of the superior claims of the wheat-harvest.

Carolina rice in India.—As the result of experiments with Carolina rice, for several years in succession, on the experimental farm in the district of Madras, India, the following conclusions have been reached: First, when properly cultivated, it does not deteriorate; second, it requires a higher order of cultivation than has heretofore been practiced in India; third, under conditions of soil adapted to its improved habits, it may be profitably grown. The indigenous variety suffers less than that under unfavorable conditions of soil and season, just as native scrubs will suffer less from inferior feed and undue exposure and neglect than thorough-bred short-horns; but it does not follow in either case that the unimproved variety is the more profitable to grow. It is found that the roots of native rice are short and grow at right angles with the stem, very near the surface, while the roots of Carolina rice grow longer and strike downward; hence it is inferred that those follow the dictates of common sense who maintain that flooding rice-lands is not a sufficient preparation for the crop, but that the soil should be further prepared for aeration, filtration, and penetration by the roots, by sub-soil drainage.

Thrift in Florida.—A former correspondent reports that Orange County, Florida, is making rapid progress in population and wealth. It unites the advantages of diversified and beautiful scenery, a remarkably healthy climate, a productive and well-watered soil, and easy access to market. The climate and soil have been proved by trial to be well adapted to the growth of oranges, lemons, and almost every other variety of semi-tropical fruits, as well as the principal vegetables. These attractions having become known, are drawing immigrants from almost every State in the Union. The voters in the county, three or four years ago, numbered less than 200; they now number about 800; and lands which,

five years ago, could be bought at 25 cents to $1 per acre, now bring $50 to $150 per acre.

PROFIT IN CABBAGES.—Our correspondent in Princess Anne County, Virginia, reports that one farmer, from 300,000 plants set out in November and December, obtained a spring crop of cabbages amounting in value to $13,000.

EPIZOOTY AMONG HOGS.—Our correspondent in Page County, Virginia, describes a destructive disease among hogs in that county, the symptoms of which are analogous to those of the horse epizooty.

EXCESSIVE RAIN-FALL.—In Sampson County, North Carolina, the rain-fall during the whole year has exceeded that of any former year within the recollection of the oldest inhabitant.

MORTGAGED CROPS.—Our correspondent in Poole County, Georgia, says: "The heavy bills to be paid for fertilizers and provisions, with the short crop of cotton, will ruin the farmers in this county."

SENSIBLE CONCLUSION.—The farmers of Carroll County, Georgia, have quite generally become convinced of the ruinous character of exclusive cotton production, and propose to raise more grain and meat hereafter.

CATTLE VS. FENCES.—In Greene County, Alabama, the absence of fences and the depredations of stock running at large prevent the sowing of winter crops of small grain.

SUFFERING IN LOUISIANA.—There will be much suffering for bread during the coming winter among the small Creole farmers of Terrebonne Parish, Louisiana. Within the memory of the oldest planters there never was a season in which the rains set in so early and continued so persistently as during the past season; very few intervals for labor were allowed.

DROUGHT IN TENNESSEE.—In Madison County, Tennessee, there has been no rain since July 1; in Lawrence County since August 1.

TOO MUCH "CULTIVATION."—Our correspondent in Greenville district, South Carolina, says that cotton is "cultivated" there nine times in a season, which subjects the soil to great loss from working.

CANNING TOMATOES.—The business of canning tomatoes has largely increased in Cumberland County, New Jersey, where $100,000 worth of that vegetable are annually raised for this purpose.

NORTHERN IMMIGRANTS IN THE SOUTH.—Quite a colony of skilled farm laborers have been induced to migrate from Ohio and Michigan to Walker County, Alabama, a movement which has awakened a considerable spirit of improvement in that region.

CASTOR-BEANS.—In Perry County, Illinois, the castor-bean (*Palma christi*) is raised in large quantities, and an increased area is annually devoted to the culture. An unusually fine crop has just been raised which is selling at $2 per bushel.

FARM-PROFITS.—The average yield of farm-products in York County, Maine, will compare favorably with the yield of ten years past; the sales of the past season have been rapid.

WHEAT AND STOCK GROWING.—Morris County, Missouri, presents fine prospects to wheat and stock growers.

CATTLE DISEASE.—A malady has prevailed among cattle in Wash-

ington County, Kansas, which awakens much concern in that locality. The affected animals are first taken with foaming at the mouth followed by spasms and paralysis; death supervenes in a few hours. The only remedy that has been found effective is a solution of common salt given in doses of a pint or quart. On dissection the mucus membrane of the stomach and intestines was found full of worms.

PRICES OF LABOR.—In Talbot County, Maryland, farm-laborers receive from 75 cents to $1 per day with board.

ORANGES IN FLORIDA.—The orange season in Putnam County, Florida, is one of the finest for thirty years; many young trees are just coming into bearing; the fruit is above average in size.

FARMING IN TEXAS.—In Bandera County, Texas, the past season has been one of disaster to farmers. Grasshoppers and early frosts are spoken of by one correspondent among the causes of this state of things. In Lampasas County, great floods are reported; in Lampasas Town, forty houses were washed away. Many farms greatly injured or destroyed.

FARMING PROSPECTS IN CALIFORNIA.—The farmers of Placer County, California, are elated with fine crops and good prices; wheat and barley are now at a higher market figure than for many years. From Plumas County comes a report less exhilarating. A series of heavy frosts during May and June, unprecedented since the settlement of the county, has crippled the growth of crops generally. Added to this, water is scarce for irrigation purposes on account of several extremely dry seasons.

RYE IN WASHINGTON TERRITORY.—Mr. Owen Bush, of Thurston County, Washington Territory, raised 40 acres of winter-rye; soil dry and sandy, having been under cultivation for twenty years, about half the time, and never manured. He realized 22 bushels per acre and marketed 200 bushels at 85 cents. He estimates his receipts and expenses per acre, as follows: 22 bushels at 85 cents each, $18.70; straw, $5; fall feed, $3; total, $26.70. The cost of cultivation, seed, &c., amounted to $7.25, leaving a balance of $19.45 as the residuary profit per acre.

DESTRUCTIVE STORM IN THE GULF STATES.—A terrible storm devastated the crops of Southern Georgia and Middle Florida, September 19. In Gadsden County, Florida, it raged with unprecedented violence from 4 o'clock a. m. till noon. The cotton which was opened by the previous fine weather was extensively destroyed or injured. In Leon County at least a third of the gin-houses were destroyed and a fourth of the unpicked cotton. The same destructive storm was felt to a smaller extent in Madison County, and also in Liberty County, Georgia. In Clarendon County the heaviest rain-fall ever known was experienced September 18 and 19.

CROPS IN NEW MEXICO.—Our correspondent from Santa Fé County, New Mexico, reports a remarkable recuperation of crops from the injuries of drought through the medium of late summer rains. The corn seemed to spring at once into a vigorous growth, and to hurry toward a full development. Grama grass quickly covered the region around Santa Fé and the southwestern portion of the Territory with a luxuriant vegetation. Fruits and vegetables of late have come into market in full supplies, though dwarfed by the earlier drought. Grapes, especially, showed the effects of this injurious influence.

MARKET PRICES OF FARM-PRODUCTS.

The following quotations represent the state of the market, as nearly as practicable, at the beginning of the month of October, 1873:

Articles.	Price.
NEW YORK.	
Flour, superfine State...per bbl.	$5 15 to $5 85
extra State .....do...	6 35 to 7 25
superfine western ...do...	5 15 to 5 85
extra to choice western, per barrel	6 30 to 10 50
southern, common to fair, per barrel	6 65 to 7 35
southern, good to choice, per barrel	7 40 to 10 75
Wheat, No. 1 spring ...per bush.	1 48 to 1 50
No. 2 spring .....do...	1 40 to 1 45
winter, red, west'n ..do...	1 58 to 1 61
winter, amber, western, per bushel	1 62 to 1 63
winter, white, western, per bushel	1 62 to 1 78
Rye.....per bush.	89 to —
Barley .....do...	1 40 to —
Corn .....do...	62½ to 68
Oats .....do...	50 to 57½
Hay, first quality .....per ton.	26 00 to 28 00
second quality.....do...	22 00 to 25 00
Pork, mess .....per bbl.	17 00 to — —
extra prime ....do...	14 75 to — —
prime mess .....do...	15 75 to 16 50
Lard .....per lb.	8⅜ to 8⅜
Beef, plain mess. ....per barrel.	8 50 to 10 00
extra mess .....do...	10 00 to 12 00
Butter, western .....per lb.	17 to 31
State dairy .. ..do...	26 to 37
Cheese, western, factory....do...	11½ to 12
State factory .....do...	12½ to 13½
Cotton, ordinary to good ordinary .....per lb.	14⅞ to 17⅛
low middling to good middling ... ...per lb.	17⅞ to 20⅛
Sugar, soft yellow .....do...	9⅜ to 10⅜
soft white .....do...	10⅝ to 10¾
Tobacco, lug, all grades, per pound.....	7 to 7¾
common to medium leaf, all grades per lb.	7¾ to 8¼
Wool, American XXX and picklock.....per lb.	58 to 62½
American X and XX, per pound.....	48 to 55
American, combing per lb.	57 to 63
California spring clip, per pound	25 to 35
California fall clip, per pound	19 to 25
Texas .....per lb.	18 to 35
BOSTON.	
Flour, western, superfine. per bbl.	5 00 to 5 50
western extras .....do ...	6 25 to 9 00
western choice .....do...	9 00 to 11 25
southern extras.....do...	6 25 to 7 00
choice Baltimore ....do...	9 00 to 11 00
Wheat.....per bush.	1 50 to 1 85
Rye .....do...	1 00 to 1 50
Barley .....do...	— — to — —
Oats, western..... ...do...	50 to 57
Corn, southern yellow.....do...	74 to 75
western yellow .....do...	74 to 75
Hay, eastern and northern, per ton	18 00 to 27 00
Hay, western choice. ...per ton	24 00 to 26 00
Beef, western mess.....per bbl	10 50 to 12 50
western extra.....do...	12 50 to 13 50

Articles.	Price.
BOSTON—Continued.	
Pork, prime ....do...	$15 00 to $15 50
mess ....do...	18 00 to 18 50
Lard ....per lb.	8¾ to 9½
Butter, N.Y. and Vt., fair to choice, per pound	25 to 36
Butter, western, fair to choice, per pound.....	22 to 30
Cheese, N. Y. and Vt. factory, choice, per pound.....	13 to 13½
Western factory, choice, per pound	12½ to 13
Cotton, ordinary to good ordinary .....per lb.	14 to 17¼
low middling to good middling .....per lb.	17⅝ to 20
Sugar, fair to good refining. do...	7⅞ to 8⅛
Tobacco, lugs .....do...	7½ to 9
common to medium leaf .....per lb.	9 to 10½
Wool, Ohio and Pa ....do...	46 to 65
Michigan ....do...	43 to 51
other western .....do...	42 to 49
pulled .....do...	25 to 56
combing fleece .....do...	57 to 62½
California .....do...	17 to 35
Texas .....do...	18 to 30
PHILADELPHIA.	
Flour, superfine.....per bbl.	4 00 to 4 50
Pa. extra.....do...	4 00 to 5 50
Pa. family ....do...	6 75 to 8 25
western family.....do...	7 00 to 8 50
western, fancy .....do...	8 50 to 10 50
Wheat, winter red, western, per bushel	1 50 to 1 58
Pennsylvania red per bu.	1 50 to 1 58
southern red.....do...	1 55 to 1 60
amber .....do...	1 60 to 1 68
white .....do...	1 65 to 1 80
Rye, western and Pa .....do...	88 to 90
Corn, yellow .....do...	67 to 68
white .....do...	63 to 65
Oats, white .....do...	49 te 51
black.....do...	43 to 45
Hay, fresh, baled.....per ton.	26 00 to 28 00
common to fair shipping, per ton	20 00 to 22 00
Pork, mess.....per bbl.	17 00 to 17 25
prime.....do...	14 00 to — —
prime, mess .....do...	15 50 to — —
Lard .....per lb	8¾ to 11½
Beef, western mess.....per bbl.	8 00 to 10 00
extra mess.....do...	10 00 to 12 00
Warthman's, city family .. do...	15 00 to — —
Butter, choice, tub and firkin, per lb.	38 to 40
fair to good do.....do...	30 to 35
Cheese, N. Y. factory .....do...	13 to 14½
Ohio factory .....do...	13 to 14
Sugar, fair to good refining.do...	7¾ to 8
Cotton, ordinary to good ordinary .....per lb.	14 to 17½
low middling to good middling.....per lb.	17¾ to 20
BALTIMORE.	
Flour, superfine ....per bbl.	5 00 to 8 25
extras .. ..do...	6 00 to 8 50
family and fancy ....do...	7 50 to 11 00

Market prices of farm-products—Continued.

Articles.	Price.		
BALTIMORE—Continued.			
Wheat, white, fair to choice, per bushel	$1 50	to	$1 75
amber, choice, per bush.	1 73	to	1 76
red, common to prime, per bushel	1 40	to	1 70
red, western, per bush.	1 40	to	1 50
Rye, common to prime, do	80	to	85
Corn, white southern, do	68	to	70
yellow southern, do	64	to	65
mixed western, do	65	to	—
Oats, southern, do	43	to	47
western, do	44	to	47
Hay, western and Pa., per ton	20 00	to	25 00
New York, do	22 00	to	26 00
Maryland, do	25 00	to	28 00
Pork, mess, per bbl	17 75	to	18 00
Beef, Baltimore mess, do	15 00	to	20 00
extra, do	23 00	to	25 00
Lard, per lb.	8¾	to	9
Butter, western, do	20	to	26
eastern, do	22	to	26
Cheese, eastern cutting, per lb.	13½	to	14
western cutting, do	13½	to	14
Sugar, fair to good refined, do	7¾	to	8¼
Tobacco, common to good lugs, per cental	6 00	to	8 00
common to medium leaf, per cental	8 00	to	11 00
Cotton, ordinary to good ordinary, per lb.	14	to	15¾
low middling to middling, per lb.	16¾	to	17¾
Wool, fleece-washed, do	45	to	50
unwashed, free from burrs, per lb.	33	to	35
pulled, per lb.	33	to	38
CINCINNATI.			
Flour, superfine, per bbl.	5 00	to	5 50
extra, do	6 40	to	6 75
family and fancy, do	6 90	to	8 25
Wheat, good to prime red winter per bushel	1 30	to	1 35
hill, per bush.	1 40	to	1 45
white, per bush.	1 45	to	1 50
Rye, do	78	to	82
Barley, do	1 20	to	1 50
Corn, do	48	to	56
Oats, do	37	to	44
Hay, baled, No. 1, per ton	16 00	to	17 00
lower grades, do	12 00	to	15 00
Beef, plate, per bbl.	12 00	to	13 00
Pork, mess, do	14 50	to	15 00
Lard, per lb.	7	to	7¾
Butter, choice, do	27	to	30
fair to good, do	20	to	23
Cheese, best factory, do	13½	to	14
Sugar, N. O., fair to good, do	10	to	10½
N. O., choice, do	10⅝	to	—
Tobacco, lugs, do	7	to	15
leaf, do	9	to	31
Cotton, ordinary to good ordinary, per lb.	14	to	15¼
low middling to good middling, per lb.	16½	to	18½
Wool, fleece-washed, common to fine, per lb.	42	to	45
tub-washed, do	45	to	48
unwashed, clothing, do	28	to	30
unwashed, combing, do	35	to	36
pulled, do	33	to	35
CHICAGO.			
Flour, spring extras, per bbl	5 50	to	6 50
Wheat, No. 1 spring, per bush.	1 04½	to	1 06
No. 2 spring, do	93	to	1 03
No. 3 spring, do	92	to	93½

Articles.	Price.		
CHICAGO—Continued.			
Rye, No. 2, do	$0 57	to	$0 62
Barley, No. 2, do	1 28	to	1 30
Corn, No. 2, do	34	to	37
Oats, No 2, do	30½	to	32
Hay, timothy, per ton	10 00	to	15 00
prairie, do	8 00	to	10 50
Beef, mess, per bbl	8 75	to	9 00
extra, do	9 75	to	10 00
Pork, mess, do	14 50	to	— —
Lard, per lb.	7¾	to	10½
Butter, choice yellow, do	25	to	28
medium to good, do	18	to	22
Cheese, N. Y. factory, per lb	12	to	13
Ohio and western factory, per lb.	10	to	12
Sugar, N. O., common to fair, do	8	to	9¾
N. O., choice, do	9⅝	to	10½
Wool, tub-washed, do	40	to	52
fleece-washed, do	38	to	44
unwashed, do	25	to	32
pulled, do	35	to	38
SAINT LOUIS.			
Flour, superfines, per bbl.	4 00	to	4 70
extra, do	5 75	to	7 50
choice and family, do	7 75	to	8 40
Wheat, red winter, No. 1 per bush.	1 43	to	1 50
red winter, No. 1, do	1 35	to	1 40
spring, No. 2, do	1 06	to	1 11
Rye, No. 2, do	63	to	65
Barley, do	1 05	to	1 55
Corn, do	40	to	51
Oats, white, do	35	to	41
Hay, choice and extra, per ton	17 00	to	18 50
Pork, mess, per bbl.	15 50	to	16 00
Beef, mess, family, do	14 00	to	— —
Lard, per lb.	8¾	to	9¾
Butter, choice dairy, do	28	to	30
medium, do	20	to	25
Cheese, Ohio factory, do	13	to	13½
N. Y. factory, do	13	to	14
Cotton, middling, do	17¼	to	— —
Wool, tub-washed, do	45	to	47
unwashed combing, do	22	to	35
NEW ORLEANS.			
Flour, superfine, per bbl.	5 00	to	— —
extra, do	5 50	to	7 50
choice, do	7 75	to	9 75
Corn, white, choice, per bush	— —	to	73
yellow, do	— —	to	75
Oats, choice, do	50	to	53
Hay, choice, per ton	26 00	to	27 00
prime, do	23 50	to	24 50
Pork, mess, per bbl.	17 00	to	— —
Beef, Texas, do	8 50	to	— —
northern and western, per barrel	14 00	to	15 00
Fulton market, per ½ bbl.	10 75	to	11 00
Lard, per lb.	8⅞	to	10¾
Butter, choice western, do	26	to	28
choice Goshen, do	36	to	38
Cheese, choice western factory, per pound	16	to	16¾
N. Y. cream, per lb.	17	to	18
Sugar, fair to fully fair, do	9¾	to	10¼
prime to choice, do	10⅝	to	— —
Tobacco, lugs, do	8	to	8½
low leaf, do	9	to	9½
medium leaf, do	10	to	10¾
Cotton, good ordinary, do	16⅜	to	16¾
low middling to good middling, per lb.	17¼	to	18⅝
Wool, clear lake, per lb.	26	to	27
Louisiana, clear, do	19	to	21

Market prices of farm-products—Continued.

Articles.	Price.	Articles.	Price.
SAN FRANCISCO.		SAN FRANCISCO—Continued.	
Flour, superfine ..... per bbl.	$5 75 to $6 00	Pork, prime mess ..... do...	$16 00 to $17 50
extra ..... do...	6 75 to 7 00	Beef, mess ..... do...	10 00 to 10 50
higher grades ..... do...	7 00 to 7 25	Lard ..... per lb.	9¼ to 12
Wheat, State ..... per cental.	2 05 to 2 25	Butter, overland ..... do...	20 to 25
Oregon ..... do...	2 05 to 2 25	California ..... do...	30 to 45
Barley ..... do...	1 40 to 1 65	Oregon ..... do...	15 to 20
Oats ..... do...	1 65 to 1 90	Cheese ..... do...	10 to 15
Corn, white ..... do...	1 60 to 1 65	Wool, native ..... do...	13 to 15
yellow ..... do...	1 60 to 1 65	Californian ..... do...	18 to 25
Hay, State ..... per ton.	13 00 to 16 00	Oregon ..... do...	24 to 25
Pork, mess. ..... per bbl.	18 00 to 18 50		

LIVE-STOCK MARKETS.

Articles.	Price.	Articles.	Price.
NEW YORK.		CINCINNATI—Continued.	
Cattle, native steers, per cental.	$11 00 to $12 25	Cattle, good to prime ..... do...	$3 75 to $4 50
good Cherokees ..... do...	10 00 to ——	Sheep, inferior to prime, per cental	2 75 to 4 25
Texans ..... do...	7 50 to 8 50	lambs ..... per cental.	4 00 to 5 25
Sheep, adult ..... do...	4 75 to 6 25	Swine ..... do...	4 00 to 4 60
lambs ..... do...	7 00 to 8 75		
Swine ..... do...	6 00 to — —		
BOSTON.		CHICAGO.	
Cattle, choice beeves .. per cental.	7 00 to — —	Cattle, extra graded steers, 1,400 pounds and upward, per cental	5 75 to 6 00
extra ..... do...	6 00 to 6 50	choice, fat, and well-formed steers, from 1,300 to 1,450 pounds ..... per cental.	5 25 to 5 60
first quality ..... do...	5 00 to 5 75	good, fat, and well-formed steers, from 1,200 to 1,350 pounds ..... per cental.	4 60 to 5 00
second quality ..... do...	4 50 to 5 00	medium steers, fair fleshed, 1,150 to 1,250 pounds, per cental	4 25 to 4 50
third quality ..... do...	3 37 to 4 00	butchers' stock, common to fair steers and good to extra cows, 800 to 1,000 pounds .per cental.	3 00 to 3 75
working-oxen ... per pair.	100 00 to 225 00	common cattle in decent flesh, 700 to 1,050 pounds, per cental	2 75 to 3 85
milch cows with calves, per head	35 00 to 60 00	Texans, choice corn-fed, per cental	4 50 to 4 75
extra ..... per head.	65 00 to 80 00	Texans, north-wintered, per cental	3 25 to 4 25
farrow cows ..... do...	15 00 to 30 00	Texans, through droves, per cental	1 75 to 2 75
yearlings ..... do...	10 00 to 18 00	Sheep, common to choice, per cental	3 25 to 4 75
veal calves ..... do...	4 00 to 15 00	Swine, inferior to extra, per cental	4 00 to 4 55
Sheep, in lots ..... do...	2 25 to 3 50	bulk of sales ..... do...	4 35 to 4 50
extra ..... do...	4 00 to 5 00		
Swine, western fat .... per cental.	5 50 to 5 75		
PHILADELPHIA.		SAINT LOUIS.	
Cattle, fair to choice .. per cental.	5 50 to 7 25	Cattle, choice native steers, 1,300 to 1,600 pounds, per cental.	5 25 to 5 50
common ..... do...	4 00 to 5 00	prime second-class natives, 1,150 to 1,400 pounds, per cental	4 75 to 5 00
Sheep, fair to good ..... do...	4 00 to 5 75	third-grade natives, 1,000 to 1,200 pounds, per cental	3 75 to 4 00
common ..... per head.	2 00 to 3 50	thrifty stock steers, 900 to 1,300 pounds, per cental	3 50 to 3 75
Swine, corn-fed ..... per cental.	7 25 to — —		
BALTIMORE.			
Cattle, best beeves .... per cental.	5 00 to 6 00		
first quality ..... do...	4 50 to 5 00		
medium or good fair quality ..... per cental.	3 50 to 4 25		
ordinary thin steers, oxen or cows ..... per cental.	3 00 to 3 50		
general average of the market ... per cental.	4 62 to — —		
extreme range ..... do...	3 00 to 6 00		
Sheep, stock animals .. per head.	2 00 to 2 50		
lambs ..... do...	2 00 to 2 50		
Swine, common and still-fed, per cental	6 75 to — —		
best corn-fed .. per cental.	7 37 to — —		
CINCINNATI.			
Cattle, common ..... per cental.	2 25 to 2 50		
medium ..... do...	2 75 to 3 25		

Live-stock markets—Continued.

Articles.	Price.	Articles.	Price.
SAINT LOUIS—Continued.		SAINT LOUIS—Continued.	
Cattle, light uneven stock steers 500 to 850 pounds, per cental	$2 75 to $3 25	Mules, 15½ to 16 hands high, per head	$120 00 to $150 00
good to choice, corn-fattened, Cherokees and Texans, per cental	2 50 to 3 75	extra.....per head.	— — to 180 00
inferior to common Texans and Cherokees, per cental	1 50 to 2 00	NEW ORLEANS.	
Sheep.....per cental.	3 62½ to 3 65	Cattle, Texas beeves, choice, per head	— — to 50 00
Swine.....do...	3 75 to 4 00	Texas beeves, first quality, per head	35 00 to 45 00
Horses, good driving animals, per head	125 00 to 175 00	Texas beeves, second quality.....per head.	20 00 to 28 00
extra.....per head	— — to 225 00	Western beeves, net, per cental	10 00 to 12 50
heavy draught-horses, per head	120 00 to 185 00	Milch cows, choice, per h'd	80 00 to 100 00
Mules, good heavy animals, per head	120 00 to 150 00	Sheep, first quality....per head.	4 00 to 5 00
extra.....per head.	— — to 180 00	second quality.....do...	3 00 to 4 00
		third quality .....do...	2 00 to 3 00
		Swine, gross .....per cental.	6 00 to 7 00

FOREIGN MARKETS.

WHEAT.—The Mark Lane (London) Express states that the British harvest was a very bad one, especially in the north of England and in Scotland. In many localities the excessive rain-fall, accompanied by storms of thunder and wind, not only interfered with the gathering of the crops, but also threatened to ruin them in the shock. A large proportion of the grain was in danger of sprouting. From extended inquiries, before these rains set in, it was estimated that the yield would average three-quarters or 24 bushels per acre, which, upon an area of 3,490,392 acres sown in wheat, would give an aggregate crop of 10,796,871 quarters or 86,374,968 bushels, of which a million quarters would be required for seed, leaving for consumption 78,374,968 bushels. Taking the population at thirty millions and allowing an average consumption of 6 bushels per capita, there would be a deficiency of over twelve and a half million quarters, or a hundred million bushels, to be met by foreign importation. The unpropitious harvest weather aggravated the difficulty by depreciating the effectiveness of even the small crop secured. The decrease in the English and Scottish wheat area compared with 1872 was 108,565 acres, while in Ireland the decline amounted to 56,859 acres. The wheat-crop in France was so shortened by unfavorable conditions of growth and gathering that a deficiency variously estimated from two and a half to five million quarters was apprehended. Buyers from France were upon the English market all through September, but shipments to that country had received a check by the announcement of the Minister of the Interior to the effect that six or seven millions of hectoliters, or from seventeen to twenty millions of bushels, would meet the French deficiency. This official utterance was criticised by the Echo Agricole as injudicious, and likely to arrest importations and produce an unnecessary scarcity. Several other European countries, with short crops, will require large importations of wheat, while nearly all the large wheat-growing regions indicate a diminished yield. Early in August the International Corn and Seed League, in session at Vienna, estimated that the Austro-Hungarian Empire would export only 800,000 quarters; whereas, in favorable seasons, Hungary alone exports three times that amount. The delegates of Germany did not estimate the crop of that empire at any figure higher

than usual. The yield of Southern Russia was not reported. Odessa prices were remarkably high, the result of a poor harvest. All the indications pointed to short supplies and high prices in Europe.

The last week in September opened upon moderate supplies of English wheat in London with good foreign arrivals, of which one-half were from America and the remainder mostly from Australia and Russia. The London weekly averages during September were as follows: 63*s.* on 4,956 quarters; 66*s.* 3*d.* on 2,759 quarters; 66*s.* 4*d.* on 2.635 quarters; 63*s.* 11*d.* on 4,713 quarters. The importations into the United Kingdom during those four weeks embraced 3,151,197 cwts. of wheat and 385,403 cwts. of flour. The stocks of old wheat both in England and on the continent appear to have been entirely exhausted. Essex and Kent new white is quoted at 54*s.* to 68*s.* per quarter in Mark Lane; ditto, red., 54*s.* to 61*s.*; Norfolk, Lincolnshire, and Yorkshire, 53*s.* to 58*s.* Foreign wheats, Dantzic and Königsberg, mixed, 62*s.* to 66*s.* per quarter; extra, ditto, 68*s.* to 71*s.*; Rostock, 61*s.* to 70*s.*; Silesian red, 57*s.* to 61*s.*; ditto, white, 62*s.* to 64*s.*; Pomerania, Mecklenburg, and Uckermark, red, 61*s.* to 63*s.*; Ghirka, 55*s.* to 60*s.*; Russian, hard, 52*s.* to 56*s.*; Saxonska, 60*s.* to 63*s.*; Danish and Holstein, red, 61*s.* to 63*s.*; American, 55*s.* to 61*s.*; Chilian, white, 63*s.*; Californian, 65*s.*; Australian, 65*s.* to 66*s.*

In the Liverpool market American white wheat brought 13*s.* per cental; spring No. 1, 12*s.* 4*d.* to 12*s.* 6*d.*; spring No. 2, 12*s.* to 12*s.* 2*d.*; Canadian white, 12*s.* 8*d.* to 12*s.* 10*d.*; ditto red, 12*s.* 4*d.* to 12*s.* 6*d.*; Californian white, 12*s.* 10*d.* to 13*s.* 6*d.*; Chilian white, 12*s.* 6*d.* to 12*s.* 8*d.*; Australian white, 13*s.* 4*d.* to 13*s.* 6*d.*; Spanish white, 12*s.* 10*d.* to 13*s.* 4*d.*; Danubian, 7*s.* to 9*s.*; Ghirka, 11*s.* 6*d.* to 12*s.* 2*d.*; Egyptian, 10*s.* 4*d.* to 12*s.* 8*d.*

In Paris the wheat trade was better furnished with samples, and a slight reaction from previous high prices was discernible. Sales could be made only by yielding about a shilling from the published quotations; extra fine white Mayenne wheat brought about 72*s.* per quarter; lower qualities down to 67*s.* The growers generally demanded from 66*s.* 6*d.* to 68*s.* At Havre, Oregon wheat was offered at 72*s.*; Californian, 71*s.*; and American spring at 64*s.* The price of wheat in the French interior markets declined 1*s.* 2*d.* to 3*s.* 6*d.* per quarter. In Belgium, markets showed a downward tendency and were lower at Hamburg. Berlin was calm, wheat for September and October being quoted at 56*s.* per quarter. In Germany demand was still in excess of supply, with considerable sprouted wheat. Egyptian supplies were limited and prices were kept up.

Flour.—At the opening of the last week in September English flour was in good supply in the London market, and foreign in moderate quantity. The course of the week developed no special changes, except, perhaps, an increasing dullness in the market. Foreign wheat was in limited request at a shade below former rates, the sales being in favor of buyers. Friday's sales of foreign amounted to 200 sacks and 9,580 barrels. Country wheats were equally inert. The best English town households brought from 50*s.* to 57*s.* per 280 pounds; best country households, 45*s.* to 47*s.*; Norfolk and Suffolk, 39*s.* to 44*s.*; American, per barrel, 28*s.* to 30*s.*; extra and double extra ditto, 31*s.* to 32*s.*

In Liverpool English and Irish superfines brought from 44*s.* to 45*s.* 6*d.* per 280 pounds; extra, 45*s.* 6*d.* to 50*s.*; French, 50*s.* to 57*s.*; Spanish, 49*s.* to 50*s.*; Trieste and Hungarian, 66*s.* to 75*s.* 6*d.*; Chilian and Californian, 46*s.* to 52*s.*; American, per barrel, Western State, 30*s.* to 32*s.*; extra, 32*s.* to 34*s.* 6*d.*; Baltimore and Philadelphia, 30*s.* to 35*s.*; Ohio, 31*s.* to 35*s.*; Canadian, 31*s.* to 36*s.*

Paris markets were dull and drooping, the prices for consumption closing at 53*s.* 4*d.* to 56*s.* per 280 pounds. The eight marks for September were 56*s.* per 280 pounds, and for October, 58*s.* 10*d.* Superior flour for September, 53*s.* 10*d.*; for October, 54*s.*

MAIZE.—*London:* American white at the close of September brought 30*s.* to 34*s.* per quarter; yellow, 30*s.* to 32*s.* *Liverpool:* American white, per 480 pounds, 34*s.* to 34*s.* 6*d.*; ditto yellow, 32*s.* to 32*s.* 9*d.*; mixed, 32*s.* to 32*s.* 6*d.*; Danubian, 31*s.* to 32*s.* 6*d.*; Galatz, 32*s.* 6*d.* to 33*s.*

WOOL.—At the close of September the London wool market showed no feature of importance. Business had not been brisk, but prices had been steady. Southdown hoggets, 1*s.* 7½*d.* to 1*s.* 8½*d.* per pound; half-breed ditto, 1*s.* 9*d.* to 1*s.* 9½*d.*; Kent fleeces, 1*s.* 8d. to 1*s.* 9*d.*; Southdown ewes and wethers, 1*s.* 4½*d.* to 1*s.* 5*d.*; Leicester ditto, 1*s.* 8*d.* to 1*s.* 9½*d.* The fourth series of London sales of colonial wool was to commence October 2 and continue till October 25. About 100,000 bales constituted the aggregate receipts available for disposal. The Australian contributions were quite small. Cape supplies, however, were unexpectedly large, and forwarded with unusual promptness. A slight fall in Buenos Ayres wool was reported at Antwerp, and the present low prices indicate considerable permanence.

LIVE STOCK.—The total imports of foreign stock into London during the week ending September 27 amounted to 15,334 head of all descriptions, against 14,589 in 1872, 19,308 in 1871, and 12,459 in 1870. Prices were as follows: Coarse, inferior beasts, 4*s.* 6*d.* to 5*s.* per 8 pounds, to sink the offal; second quality, 5*s.* 2*d.* to 5*s.* 6*d.*; prime large oxen, 5*s.* 10*d.* to 6*s.* 2*d.*; prime Scots, shorthorns, &c., 6*s.* 2*d.* to 6*s.* 4*d.*; coarse, inferior sheep, 4*s.* 6*d.* to 5*s.*; second quality, 5*s.* 2*d.* to 5*s.* 8*d.*; prime coarse wooled, 6*s.* to 6*s.* 4*d.*; prime Southdown, 6*s.* 6*d.* to 6*s.* 10*d.*; large hogs, 4*s.* 2*d.* to 4*s.* 6*d.*; small porkers, 5*s.* to 5*s.* 4*d.*